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ABSTRACT

This volume offers a full country study of the structure and content of the educational system of Denmark, together with a formal set of placement recommendations for Danish students wishing to study in the United States. Chapter 1 introduces the volume with descriptions of Denmark and its people, government, the government's role in education, and the Danish educational structure. Chapter 2 explains preschool, primary and lower secondary education. Chapter 3 covers upper secondary education including academic and vocational programs. Chapter 4 discusses advanced technical and vocational education and describes three sample programs. Chapter 5 is on tertiary education including universities, other tertiary institutions, degree structure, degrees offered, professional education, open universities, diplomas and practice, the academic year, language of instruction, admission, grading, transcripts, faculty titles, facilities, the Danish Research Academy, and five university profiles. Chapter 6 discusses specialized tertiary education by field of study. Chapter 7 describes medical training for 19 areas of specialization. Chapter 8 explains teacher education. Chapter 9 covers study abroad and internationalization in education. Chapter 10 contains the recommendations and guidelines for admissions officers on admitting and placing Danish students in institutions in the United States. Appendixes contain a list of approved vocational education courses, a list of engineering colleges offering degrees, a list of tertiary degrees, and information on the National Council on the Evaluation of Foreign Educational credentials. Includes a glossary and an index. (JB)

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Denmark

COUNTRY

REPORT

1995

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Denmark

A study of the Educational
System of Denmark and
Guide to the Academic
Placement of Students in
Educational Institutions
in the United States

Country
Report
1995

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Contents

List of Illustrations	17
Preface	IX
Acknowledgments	X
Chapter 1. Introduction	1
Denmark and Its People	1
Government	1
Role of Government in Education	1
Overview of Danish Education	2
Educational System Structure (Figure 1.2)	3
Chapter 2. Preschool, Primary And Lower Secondary Education	5
Preschool Education	5
Primary And Lower Secondary Education	5
Chapter 3. Upper Secondary Education	10
Overview	10
Academic Upper Secondary School (<i>gymnasieskole</i>)	10
Higher Preparatory Examination (<i>Højere forberedelseksamen/HF</i>)	13
Alternative Secondary Academic Qualifications	15
<i>Studerterkursus</i>	15
Foreign Student Qualification (<i>GIF</i>)	15
International Baccalaureate	15
Vocational Upper Secondary Programs	16
Upper Secondary Commercial Education (<i>Højere handeleksamen/HHX</i>)	16
Upper Secondary Technical Education (<i>Højere tekniskexamen/HTX</i>)	17
Basic Social and Health Training Programs	19
Home Economics Education	19
Transfer Between Upper Secondary Programs	19
Chapter 4. Advanced Technical and Vocational Education	28
Technical Schools (<i>Tekniske Skoler</i>)	28
Sample programs	28
Building System Technicians/Constructing Architects	28
Maritime Engineers	29
Export Technicians	29
Chapter 5. Tertiary Education	30
Overview	30
Universities	30
Other Tertiary Institutions	30
Degree Structure	31
Basic degrees	32
<i>Bachelorgraden</i>	32
<i>Candidatus/a</i>	32
<i>Ph.D.-graden</i>	32

<i>Doktorgraden</i>	33
Other University Degrees	33
Professional Education	33
Open Universities	33
Diplomas and Practice	34
Academic Year	34
Language of Instruction	34
Admission	34
Grading	35
Transcripts	36
Faculty Titles	36
Facilities	36
The Danish Research Academy	37
University Institutional Profiles	37
<i>Aalborg Universitetscenter</i> (Aalborg University Center)	37
<i>Aarhus Universitet</i> (Aarhus University)	39
<i>Københavns Universitet</i> (University of Copenhagen)	41
<i>Odense Universitet</i> (Odense University)	44
<i>Roskilde Universitetscenter</i> (Roskilde University Center)	46
Chapter 6. Specialized Tertiary Education by Field of Study	52
Agriculture	52
Agricultural Schools	52
Forestry Schools	53
University-level Agricultural Programs	53
Art and Design	56
Fine Arts	56
Applied Art and Design	57
Graphic Design	58
Architecture	59
Business Administration and Commerce	60
Programs Offered at Upper Secondary Institutions	60
Programs Offered at Tertiary Institutions	62
Business School Institutional Profiles	64
Drama	69
Engineering	70
<i>Teknikumingeniør</i> (Technical Engineer)	70
<i>Eksportingeniør</i> (Export Engineer)	71
<i>Akademiingeniør</i> (Academy engineer)	71
<i>Civilingeniør</i> (Civilian Engineer)	71
Film	74
Journalism	74
Legal Studies	75
Library Studies	76
Military Science	76
Music	77
University Music Education	77
Conservatory Music Study	77

Social Work	78
Theology	79
Chapter 7. Health Sciences	86
Medical Fields	86
<i>Kiropraktoruddannelsen</i> (Chiropractic Education)	86
<i>Tandlægevidenskab</i> (Dentistry)	86
<i>Medicin</i> or <i>Lægevidenskab</i> (Medicine)	87
<i>Jordmoderuddannelsen</i> (Midwifery)	88
<i>Sygeplejerskeuddannelsen</i> (Nursing)	88
<i>Farmaceutuddannelsen</i> (Pharmacy)	89
<i>Dyrlægevidenskab</i> (Veterinary Medicine)	89
Paramedical Fields	90
<i>Tandklinikassistent</i> (Dental Assistant)	90
<i>Tandplejere</i> (Dental Hygienist)	90
<i>Klinisk tandtekniker</i> (Clinical Dental Technician)	90
<i>Økonoma</i> (Hospital Trained Dietitian)	91
<i>Hospitalslaborant</i> (Medical Laboratory Technologist)	91
<i>Laborant</i> (Laboratory Technologist)	91
<i>Kemiskteknolog</i> (Chemical Technologist)	91
<i>Miljø tekniker</i> (Environmental Technologist)	91
<i>Ergoterapeut</i> (Occupational Therapist)	92
Orthoptics	92
<i>Apoteksassistent</i> (Pharmacy Assistant)	92
<i>Fysioterapeut</i> (Physical Therapist)	92
<i>Radiograf</i> (Radiographer)	93
Additional Institutional Listings	93
Nursing Schools Approved by the National Board	93
Schools of Occupational and Physiotherapy	94
Chapter 8. Teacher Training	95
Overview	95
Preschool and Social Care Teacher Training	95
Elementary and Lower Secondary Teacher Training	96
Specialized Teacher Training	96
Nutritional and Consumer Teachers	96
Needle-craft Teacher	97
Vocational and Technical Teacher Training	97
Upper Secondary School Teacher Training	98
Graduate and In-Service Teacher Training	99
Additional Institutional Listings	99
Preschool and Social Care Institutes	99
Colleges of Education Offering Training for Elementary and Lower Secondary Teachers	101
Chapter 9. Study Abroad and Internationalization	104
Overview	104

Student/Faculty Mobility	104
"Learning Danish" Programs	105
Opportunities for U.S. Students to Study in Denmark	106
Direct Entry into Danish Institutions	106
Study Abroad Programs in Denmark	106
Study Abroad Publications	108
Danish Students Wishing to Study in the U.S.	108
Chapter 10. Guidelines For Admissions Officers	109
General Advice	109
Translations	109
Abbreviations	109
Spelling	109
Nomenclature of Degrees	110
Grading	110
Special Notes	110
Technical University of Denmark	110
Business Diplomas and Certificates	110
Useful Resources	110
The Role of the National Council on the Evaluation of Foreign Educational Credentials	111
Guide to Understanding Placement Recommendations	111
Secondary	111
Undergraduate	112
Graduate or Advanced Professional Admission	112
Council Commentary	113
Placement Recommendations	115
Appendix A. Approved Vocational Education Courses	130
Appendix B. <i>Teknika</i> (Engineering Colleges) Offering Degree <i>Teknikumingeniør</i>	133
Appendix C. Tertiary Degrees	134
Appendix D. National Council on the Evaluation of Foreign Educational Credentials	137
Glossary of Danish Terms	138
Index	141
Ordering WES Publications	147

Illustrations

Figures

1.1 Map of Denmark	XII
1.2 Basic Structure of the Danish Educational System	3

Tables

2.1 <i>Folkeskole</i> (Primary and Lower Secondary) Curriculum	6
3.1 Curriculum at the Upper Secondary School, Languages Line	11
3.2 Curriculum at the Upper Secondary School, Mathematics Line	11
3.3 High Level Optional Subjects at the Upper Secondary School	12
3.4 Compulsory Curriculum for the Higher Preparatory Examination (<i>HF</i>)	14
3.5 Optional Subjects for the Higher Preparatory Examination (<i>HF</i>)	14
3.6 Examinations which form part of the final <i>HHX</i>	17
3.7 Course Requirements for the Higher Technical Examination (<i>HTX</i>)	18
3.8 Higher Technical Examination/ <i>HTX</i> Schedule and type of examination	18
5.1 Admissions to Higher and Further Education (1960-1975)	34
5.2 Admission to Higher and Further Education (1975-1990)	35
6.1 Study Plan for Landscape Architecture	54

Documents

2.1 <i>Afgangsbetis</i> (Leaving Certificate), Danish	8
2.2 Leaving Certificate (<i>Afgangsbetis</i>), English	9
3.1 <i>Studentereksamenbetis</i> (front and back)	21
3.2 Full <i>Betis</i> for <i>HF</i>	23
3.3 Single Subject <i>HF</i> examination result (Danish)	24
3.3 Single Subject <i>HF</i> examination result (English)	25
3.4 <i>HHX</i> Diploma (Commercial Secondary Sch. Leaving Cert.)	26
3.5 <i>HTX</i> Diploma (Technical Secondary Sch. Leaving Cert.)	27
5.1 <i>Bachelorgraden</i>	48
5.2 Transcript, Aalborg University	49
5.3 <i>Cand.scient.oecon.</i>	50
5.4 <i>Cand.mag.</i>	51
6.1 Market Economist Diploma	81
6.2 <i>Den Erhvervssproglige Korrespondenteksamen</i>	82
6.3 <i>Civilingenior</i> transcript (front and back)	83
8.1 <i>Handelsfaglerereksamen,engelsk</i> (Business subject examination in English, Commercial Teaching Certificate)	102
8.2 <i>Pædagogikum</i> (Technical Teaching Certificate)	103

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Preface

This volume in the World Education Series (WES) is a full country study of the structure and content of the educational system of Denmark, together with a formal set of placement recommendations based upon the research of the authors. The placement recommendations have been reviewed and officially approved by the National Council on the Evaluation of Foreign Educational Credentials. Each WES volume is published in accordance with standards of independent academic research and does not seek to advance any domestic or international political aim.

The World Education Series is published by PIER (Projects for International Education Research), a committee of appointed representatives from the American Association of Collegiate Registrars and Admissions Officers (AACRAO), NAFA: Association of International Educators, and the College Board. PIER was formed in 1990 with the merger of two long-standing committees; the World Education Series Committee of AACRAO and the PIER Committee of AACRAO and NAFA. The members of the PIER Committee during the research and development of this volume are listed on the opposite page.

PIER is charged with research and dissemination of information on educational systems throughout the world, for use in the admission and placement of students and scholars in educational institutions in the United States. In addition to publishing reports on these systems, PIER develops workshops and seminars on international credentials evaluation.

Four types of publications make up the World Education Series: full country studies, workshop reports, special reports, and working papers. The PIER Committee oversees the selection of topics, authors, and reviewers. Among the topics covered are levels of education, institutions, admission and program requirements, grading systems, credentials awarded, and study abroad programs. Placement recommendations, when included, are approved by the National Council on the Evaluation of Foreign Educational Credentials. For more information concerning the National Council and its members, see page 137. Information and an order form for currently available PIER volumes can be found on the last three pages of this book.

William H. Smart, Chair

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The opportunity to visit Denmark to undertake the research for this PIER volume was challenging and exciting. No American publication on the Danish education system had been produced for the American admissions community in over 20 years. We had much to absorb. Educational administrators and faculty spent untold hours sharing their knowledge with us and patiently explaining their programs, their educational philosophy, and their country. They also spent invaluable time after our visit reviewing with us the material we had collected.

We are most grateful to the Danish Ministry of Education, which provided the funding for the project and opened many official doors for us. The Center for Quality Assurance and Evaluation of Higher Education (*Evalueringssenteret*) under the able guidance of Christian Thune was our official host. The Center arranged our schedule, made sure we saw whomever we wanted to see, and worked hand-in-hand with us to be sure that we had whatever documentation was available. Particular thanks must go to Dorte Kristoffersen, who not only spent many hours making this project possible before and during our visit to Denmark, but who also spent the following year assisting us by faxing answers to remaining questions and following up on endless details and requests for more information.

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Linda Callihan of NAFSA was very helpful with administrative support for the project. The PIER Committee supplied us with a laptop computer and printer which, although heavy and a bit ornery at times, were invaluable traveling companions. A word must be said here about new technology and access to information PIER authors have never had before. Our first draft relied heavily on information we got from the TRACE project, and we found it excellent! It was supplied to us by the Danish Ministry of Education, and enabled us to use data that could be searched. The information was thorough and detailed, and useful to us throughout the project.

Our thanks to Taylor Gregg of The Braintree Group who undertook the professional editing of the manuscript and learned a great deal about the PIER process while doing so. Henrianne Wakefield of the AACRAO staff also contributed to the final production of this manuscript.

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We shared a great experience. We hope we have produced a useful volume. We thank the many Danes and Americans who contributed to the work, and hold only ourselves responsible for any undetected errors. It is our hope that this volume will assist in increasing the mobility of students and scholars between our two countries.

Valerie A. Woolston

Karlene N. Dickey

May 1994

Valerie A. Woolston is Director of International Education Services, University of Maryland at College Park (UMCP). She has served as President of NAFSA: Association of International Educators (1988-1989), Vice President for Regional Affairs (1982-1983), and Chair, Admissions Section (1979-1980). As an AACRAO member, she has served as Chair of Projects for International Education Research (PIER), (1985-1988). From 1982 to 1988 she was a member and Chair of the International School Service in Princeton, New Jersey. She has been a member of the Board of Directors and Chair of Educational Credential Evaluators, Inc. since its inception. She is the 1994 recipient of the International Distinguished Service Award from UMCP. Her publications include the "Southern Africa" World Education Series volume, Co-Director and Editor, "PIER Workshop Report on South Asia: Bangladesh, India, Sri Lanka, Pakistan," and co-author of "Graduate Study in the United States, A Guide for Prospective International Graduate Students," published by the Council of Graduate Schools.

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Map: Denmark



Chapter 1

Introduction

Denmark and Its People

The official name of Denmark is *Kongeriget Danmark* (Kingdom of Denmark), which is abbreviated in mail addresses, on postage stamps, and on license plates as "DK." The Kingdom of Denmark comprises Denmark itself (population approximately 5,150,000), the Faeroe Islands (45,000 inhabitants; under home rule since 1949), and Greenland (53,000 inhabitants; under home rule since 1979). The majority of the country is composed of the peninsula, Jutland (*Jylland*), and two islands, Funen (*Fyn*) and Zealand (*Sjælland*), located in Northern Europe between the Baltic Sea and the North Sea. Water surrounds the country except for 42 miles in the south along the Danish/German border.

Denmark covers an area of 17,000 square miles (excluding the Faeroe Islands and Greenland), slightly smaller than the combined area of Vermont and New Hampshire. The population of approximately 5 million is about five times as large as that of the two American states. The capital is *København* (Copenhagen), with 1.5 million inhabitants in the Greater Copenhagen area. Administratively the country is composed of 14 counties and 275 municipalities. The primary languages are Danish, Faeroese, and Greenlandic.

Denmark is one of the oldest kingdoms in Europe. Its flag is the world's oldest, having flown since 1218. Danish history has been characterized by military conflicts with Germany, Sweden, and England. It had colonial holdings as far away as India, but has lost much territory over the centuries. The first Constitution was adopted in 1849.

Most Danes are affiliated with the Evangelical Lutheran Church, the Christian denomination that is the state religion (97%); with other Protestant and Roman Catholic denominations 2%, the remaining other as 1%. The literacy rate is 99%. The ages of compulsory education are 7 to 16. Educational expenditure is 7.9% of the Gross National Product (GNP), 14.5% of governmental expenditure.

Government

Denmark is a constitutional monarchy, with Queen Margarethe II, by law, the head of state. She plays various formal roles in relation to legisla-

tion, governmental appointments, etc. A unicameral Parliament (*Folketing*) is elected through a proportional representation system, which means that no political party is ever likely to win an absolute majority. In the parliamentary system, the parties that make up the government are the parties that represent the majority, or a coalition of the minorities, in the Parliament.

Denmark is a social welfare state. Most major decisions on the development of the state, including the educational system, are made through consensus among most of the political parties. There is much continuity within the government. There is 100% free access to health care, for which the government spends 6% of the GNP.

Role of Government in Education

The central government exercises considerable influence and control over Danish education, which is centralized and generously financed by the government. Most Danish education is regulated by laws adopted by the Danish Parliament. These laws set a general framework and define aims for each level of education. In addition, the Ministry of Education (*Undervisningsministeriet*), formerly the Ministry of Education and Research, directs the educational system by issuing decrees, orders, and circulars that are binding. The Ministry also issues guidelines and recommendations which have to be considered by the educational institutions, and controls final examinations at the primary and secondary school levels. The Ministry also allocates public funds on an annual basis and reviews curricula in the educational institutions. (See Figure 1.2; Structure of the Danish Educational System.)

Responsibility for the various levels of education is divided among the national government, the counties, the municipalities, private institutions, and individuals in the following manner:

1. Primary and lower secondary school (*folkeskole*) are the responsibility of the municipalities (except for the 10% that are private).
2. The majority of academic upper secondary schools (*gymnasier*) and institutions offering programs leading to the Higher Preparatory Examination (*Højere forberedelseksamen* [HF]) are the responsibility of the 14 counties, with

pedagogical supervision from the Ministry of Education.

3. Colleges and other Danish institutions offering training for child welfare, kindergarten, and youth center teachers, teachers for primary and lower secondary education, and *teknikum* engineers are formally private, but funded 100% by the State.

4. Unique Danish folk or open schools, agricultural schools, continuation schools, and some home economics schools are formally private but receive subsidies from the national government that cover most of their expenses.

5. Universities and other tertiary level institutions are tied to the national government, from which they receive most of their funding. The institutions are academically autonomous, and recent legislation ensures further autonomy. A few of the institutions are private, though they too receive some financial support from the government.

Municipal councils composed of local elected authorities are responsible for setting up school boards consisting of teachers, parents, and pupils at each primary and lower secondary school (*folkeskole*).

Individual institutions such as *folkeskoler*, *gymnasieskoler*, and teacher training colleges are managed by a principal; universities are usually managed by one individual, the *rektor*, appointed by the faculty, with the help of a governing board. Private institutions generally have a board of directors that attends to the administrative and economic responsibilities of the institution and appoints an individual to take care of the daily management needs and ensure the maintenance of educational standards.

Ministries other than the Ministry of Education have responsibilities for some types of education. For example, the Ministry of Social Affairs (*Socialministeriet*) is responsible for kindergartens and preschool institutions, except for preschool classes that are a part of a primary or lower secondary school. The Ministry of Cultural Affairs (*Kulturministeriet*) administers and funds fine arts education. The Ministry of Education and the Ministry of Agriculture (*Landbrugsministeriet*) do the same for agricultural education.

An Overview of Danish Education

Education is highly respected in Denmark and the Danes rely on education to better themselves, their country, and their place in world economic competition. In this small, homogeneous country there is much agreement about the importance of education and the necessity for a diverse educational system that will meet the needs of students and society. Both formal and informal education are active and progressive elements of society. It is not unusual for a Dane to spend a vacation attending an interest course or a continuing education program; indeed, some Danes

are entitled to one week annually of such a program.

Perhaps because it is such a homogeneous country with a genuinely liberal social tradition, there seems to be consensus about the value of education which, in turn, allows the government to spend a great deal of money on education. A concrete example of the importance Danes attach to education is that teachers have good working conditions (small classes, few class hours per year). Although the pay is moderate, professionally, Danish teachers are well respected.

There is much parental involvement in compulsory (through grade 9) education which consists of a public system (90% of the students) and a private one, heavily subsidized by the government. While students have some choice in selecting subject matter, parents are consulted prior to academic decision-making. Local school boards influence the selection of elective courses and wield more power in the schools than in the United States. A special feature of the Danish system is that a larger portion of funds goes to the primary education system than is the case in most other countries.

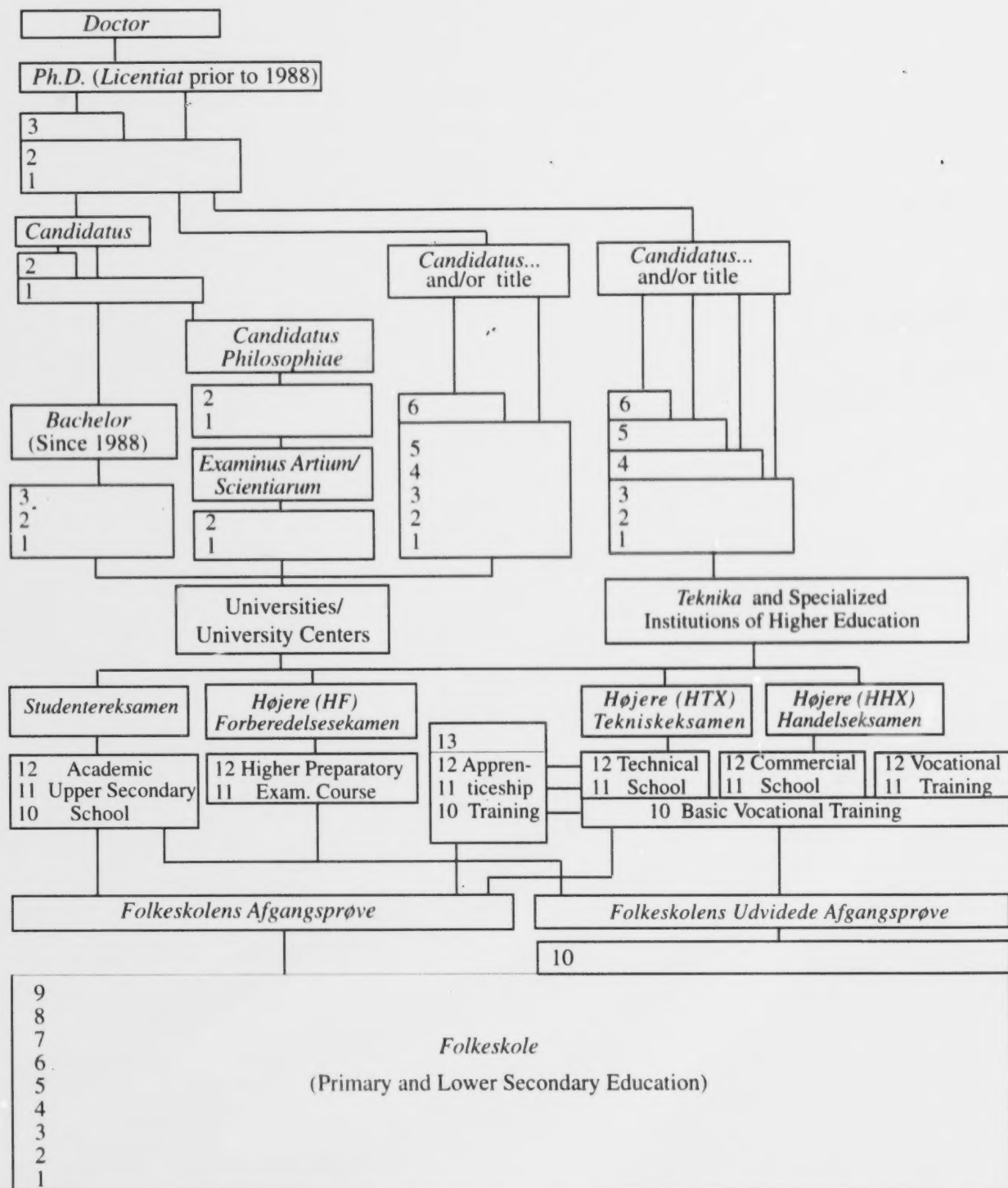
Throughout the system there is evidence of great respect for pragmatic, hands-on experience. This can be seen in the large number of projects in both the academic upper secondary schools and in tertiary education. Unlike many countries, experience other than academic is highly weighted in Denmark when considering the admission of students to tertiary academic programs. This is particularly true in the social welfare fields such as health sciences, education, and social work, and also in the engineering and technical fields.

Vocational and technical education is highly developed in Denmark. Like many European countries, the apprenticeship system is still in place, though it has changed significantly over the years. The unique element of Danish vocational and technical education is its emphasis on academic work in the upper secondary school, with a curriculum so diverse that students can move from vocational schools into academic schools and vice versa.

There has been a great deal of change in the Danish educational system over the past 30 years. Though there are only 9 years of compulsory schooling, very few students drop out after 9 years, and most complete at least 12 years of education or training. The upper secondary school and tertiary system have moved from a highly elitist, highly streamed academic system to a much more comprehensive, democratic system with more emphasis on access and keeping students in school.

The examination system in Denmark is also shifting. There is much less emphasis on year-end exams after year 9 or 10 than previously. Because it is important to the Danes that they be able to articulate their knowledge, many examinations are

Figure 1.2 Structure of the Danish Educational System



Adapted from "Country Education Profiles-Denmark: A Comparative Study," published by the Australian Department of Employment Education and Training, National Office of Overseas Skills Recognition, Canberra

Chapter 1

completely oral. When the final exam is oral, there is always an external examiner, often a teacher from another school, listening to the examination and marking it along with the teacher.

In the tertiary system, the last 10 years have marked a trend away from the traditional Germanic university system toward the Anglo-American system. For example, a 3-year *bachelor* degree has been introduced as a first tertiary degree. The *candidatus/a (kandidat)* degree, which was formerly the first and final tertiary degree, will now become a second level tertiary degree. While the *doktor-*

grad still exists, a new *Ph.D.* degree has been introduced that is much more structured and includes a good deal of coursework as well as research. Many of these changes are the result of trying to tie the educational system more closely to the labor market so that education will be practically effective in the international, and particularly in the European, environment. A commonly expressed view is that universities must move from a position of elevated isolation to a position deeply involved in the development of society.

Chapter 2

Preschool, Primary and Lower Secondary Education

Preschool Education

There are many educational and day care opportunities available for children under the age of 7. Day nurseries (*vuggestuer*) or publicly supervised, private, in-home day care (*dagpleje*) exist for children up to 3 years old, and for children from 3 to 7 there are kindergartens (*børnehaver*). There are also integrated institutions (*integrerede institutioner*) for children up to 14 years of age. The goal of all these types of institutions is to make it possible for both parents to work, to supplement parental care, and to give good child care in a pedagogically stimulating environment. These institutions are supervised by the Ministry of Social Affairs and generally financed by the local government; parents pay only a limited portion of the costs.

Optional 1-year preschool classes (*børnehaveklasser*) are available when children are 6 years old. Approximately 95-96% of the children attend this preschool class located in the primary and lower secondary school (*folkeskole*) that offers three or four lessons a day, 5 days a week. This class is intended to teach children to play together and strengthen their social skills. Emphasis is on the school routine and activities that are intended to help the child prepare for grade 1.

Primary And Lower Secondary Education

Education is compulsory in Denmark between the ages of 7 and 16. Ninety percent of the children attend a municipal, public primary and lower secondary *folkeskole*, which spans the 1-year preschool (*børnehaveklasser*) and grades 1 to 9 plus an optional grade 10. The Danish system does not distinguish between primary and lower secondary education; it is all *folkeskole* education. The remaining 10% attend private schools that are financed 85% by the government, with parents paying only a small fee to make up the balance. By law, class size may not exceed 28, the average class size being approximately 19. Students may also be educated at home and home education remains a matter of choice as long as standards are met and the range of subjects taught is as prescribed by the Ministry of Education.

Students may not enter grade 1 until they are 7 years old (though exceptions are made). Students spend 1 year at each level and are automatically promoted from one grade to another. In many cases, students have the same teacher and classmates from grades 1 to 9 or 10. From grades 1 through 7 students follow common curricula with similar extracurricular activities (Table 2.1). A single teacher (or a comparatively small group of teachers) teaches a group of students in all subjects.

Parents are directly involved in determining individual programs where choices are to be made. Students are not graded but the schools must provide two reports a year to parents, which may be oral, including information concerning personal and social development as well as academic achievement.

Beginning with grade 8, English, German, and mathematics were offered at two levels (basic and advanced); in grades 9 and 10, physics/chemistry were offered at two levels (basic and advanced). Even in these subjects there was an ongoing debate about streaming versus a common curriculum and mixed ability grouping. Where there was streaming, the parents, in consultation with the teacher and pupil, decided which level the student would follow. (The practice of streaming was discontinued in Danish *folkeskoler* as of August 1994.) In grades 8, 9, and 10, the two evaluation reports must be written and examination results are graded.

A tenth year is available but not compulsory for students who are not considered sufficiently mature to move out of the lower secondary school and on to either academic upper secondary school, or vocational or technical training. Students may also attend if they wish to improve grades or spend a year on subjects of special interest before completing the *folkeskole*. Parents, after consultation with the teacher and pupil, are responsible for this decision. No subjects are compulsory in the optional tenth year, but schools must provide opportunities for students to study from among ten subjects. Generally emphasis is placed on social and personal development and many teachers create themes or issues to study. Some of these programs include a halfday of academic study and

halfday of work outside the school setting. Approximately 50% of students complete the optional tenth year and continue on to academic secondary school where they enter the first year of the 3-year upper secondary school curriculum, just as do students who enroll in upper secondary school after completion of the ninth year. Students who enroll in commercial or vocational upper secondary schools follow the same pattern, and enroll after either the ninth or tenth year.

The Ministry of Education publishes curriculum guidelines for primary and lower secondary education. Each school is permitted to work out its own program to some extent, but in fact most follow a centrally prepared schedule similar to the one in Table 2.1. Academic courses include biology, Christian studies, contemporary studies, creative art, Danish, English, French, geography, German, history, mathematics, music, and physics/chemistry. In addition to these subjects, certain compulsory topics (educational and vocational guidance, health education, computer technology, other religions and philosophies of life, sex education, Swedish and Norwegian, and traffic safety) are also covered, some in the weekly compulsory "free class discussion."

In addition to these, several optional courses are also offered.

Written examinations are set and marked by external examiners. The exam that is given upon completion of grade 9 is the Leaving Examination (*Afgangsprøve*) and that given upon completion of grade 10 is the Extended Leaving Examination (*Udvidede Afgangsprøve*). *Udvidede Afgangsprøve* is translated into English in Danish publications as "Advanced Leaving Examination." In most subjects there is only one level of examination (the *Afgangsprøve*) and it may be taken after grades 9 or 10 in Danish, arithmetic/mathematics, English, physics/chemistry, German, French, and Latin (only after grade 10). The *Udvidede Afgangsprøve* may be taken only after the tenth class in arithmetic/mathematics, English, German, and physics/chemistry if the students have taken advanced level courses in those subjects.

The examinations after the ninth or tenth year are taken on a single subject basis, and are not compulsory. Each student has the right to decide whether to take the exams, after consultation with teacher and parents. Examinations after year 9 are oral, except in mathematics and written Danish. After year 10, the examinations are both written

Table 2.1. *Folkeskole* (Primary and Lower Secondary) Curriculum with Number of 45-Minute Lessons Per Week

Subjects	Years									
	1	2	3	4	5	6	7	8	9	10
Danish	9	8	7	6	6	6	6	6	6	6
Free Class Discussion	1	1	1	1	1	1	1	1	1	1
Mathematics	4	4	4	4	4	4	4	4	4	4*
Physical Education and Sport	1	2	2	3	3	2	2	2	2	3
Christian Studies	1	1	1	2	1	2		1	1	1*
Creative Art	1	2	2	2	1					
Music	1	2	2	2	1					
History			1	1	1	2	2	2	2	
Geography			1	1	1	2	2			
Biology			1	1	1	2	2			
Contemporary Studies								3	3	3
Needlework				2	2					
Woodwork					2	2				
Home Economics						3				
English					3	3	3	3	3	3
German							3*	4*	4*	4*
Physics/Chemistry							2	2	2	2*
French										4*
Total	18	20	22	25	27	28	30	28	28	31

Note: In addition to the above listed subjects, pupils in grades 8, 9, and 10 can choose between a number of optional subjects, up to the maximum load of 34 lessons per week. Optional subjects include contemporary studies, Latin, typing, photography, vocational studies, computer sciences, and motor knowledge.

* Non-compulsory subjects

and oral. Oral examinations are given by the classroom teacher with an external examiner present. The Extended Leaving Examination (*Udvidede Afgangsprøve*) does not earn credit in upper secondary school. No one is permitted to drop out of the public compulsory education system, but students who receive low examination marks or who choose not to take exams may not be referred on to upper secondary education.

When pupils leave lower secondary school they receive a Leaving Certificate (*Afgangsbevis*) or an Extended Leaving Certificate (*Udvidede Afgangsbævis*) listing all the subjects they have studied in grades 1-9 or 10, grades received for years 8, 9, and 10, and examination subjects and results. The Leaving Certificate is available in Danish and English versions (Documents 2.1, 2.2). The grading scale is divided into 3 main groups: excellent--13, 11, and 10; average--9, 8, and 7; and weak--6, 5, 03, and 00. Passing grades are 6 and above.

Students enroll in one of various types of upper secondary education on the recommendation of teachers rather than on the basis of examinations or school grades. Approximately 30% of the grade 9 leavers go into *gymnasieskole* while 10% of the grade 10 leavers go on to *gymnasieskole*.

Approximately 10% of pupils aged 7 to 16 attend private schools, usually established by people with specific educational views or who belong to certain religious, political, or ideological organizations. Because these schools are heavily financed by the national government, fees are reasonable and private schools are not viewed as elitist in Denmark. The curriculum must be comparable to the education offered in public schools, but often the internal organization of the curricula and the methodology or pedagogy vary. Parental influence is generally stronger in private schools than in the public system.

Afgangsbevis

Elev

Fulde navn

Personnummer

XXXXXX-XXXX

Elev har på 1. til 7. klassetrin modtaget undervisning i:

Dansk ☒ Tysk på 7. kl. trin
 Regning/matematik ☐ Formning ☐ Fysik/kemi ☐
 Idræt ☐ Musik ☐ Håndarbejde ☐
 Kristendomskundskab ☐ Historie ☐ Sløjd ☐
 Geografi ☐ Biologi ☐ Hjemkundskab ☐
 Engelsk ☐ Fransk på 7. kl. trin ☐

Udskrevet dato

XX.XX.19XX

Klassetrin

10.

Elev har efter 7. klassetrin modtaget undervisning i

Fag	8. klassetrin	9. klassetrin	10. klassetrin	Standpunktskarakter	Prøvekarakter
Elev har fulgt undervisningen i de med x markerede kurser	Grundkurs Udviklet kursus Ikke kursusdel	Grundkurs Udviklet kursus Ikke kursusdel	Grundkurs Udviklet kursus Ikke kursusdel		FSA Folkeskolens afgangsprøve FSU Folkeskolens udvalgte afgangsprøve
Dansk		X	X		
retstavning				9	10
skriftlig fremstilling				9	9
orden				8	10
mundtlig				10	7
Regning/matematik		X	X		
færdighedsregning				7	10
problemregning				7	10
orden				8	8
mundtlig				7	5
Engelsk	X	X	X		
skriftlig				7	7
mundtlig				8	9
Tysk		X	X		
skriftlig				9	10
mundtlig				9	10
Fysik/kemi		X	X		
orden				6	9
Latin					
Fransk			X		
skriftlig					
mundtlig				9	** 10
Håndarbejde			X		
orden				10	11
Sløjd			X		
orden				8	8
Hjemkundskab			X		
orden				7	9
Maskinskrivning		X			
orden				8	9

Elev har efter 7. klassetrin endvidere modtaget undervisning i

Idræt, Kristendomskundskab, Samfundsorientering, Historie,

Geografi, Biologi, Totolære,

* I tysk er prøven (FSA) aflagt i h.t. prøvebekendtgørelsens

X § 22 § 24 (1-4mg)

** I fransk er prøven (FSA) aflagt i h.t. prøvebekendtgørelsens

§ 22 § 24 (samt tysk X § 24 (1-4mg))

Skole: Navn og adresse

A-skole

Dato og underskrift



Leaving Certificate of the Folkeskole

Full name of Pupil	Personal Code No.
--------------------	-------------------

The pupil has received instruction in the following subjects in the 1st to 7th forms:

Danish	Creative Art	Biology	English	Issued on Form 10.
Arithmetic/Math.	Music	Needlework	Physics/Chemistry	
Ph.Ed. & Sport	History	Woodwork	French	
Religious Educ.	Geography	Home Econ.	German in 7th form	
☒ Yes ☐ No				

The pupil has received instruction in the following subjects after the 7th form:

Subjects	8th form			9th form			10th form			Marks for the year's work	Examination marks	
	S	C	U	S	C	U	S	C	U		The Leaving Examination of the Folkeskole	The Advanced Leaving Examination of the Folkeskole
The pupil has followed the instruction in the subjects marked with an 'x'	a	d	o	n	a	d	o	n	a	d	o	n
	s	u	v	u	s	u	v	u	s	u	v	u
	i	r	a	r	i	r	a	r	i	i	r	a
	c	s	n	s	v	c	s	n	s	v	c	s
	e	c	e	i	e	c	e	i	e	c	e	i
	e	d		e	d		e	d		e	d	
	d		d	d		d	d		d	d		d
Danish			X			X			X			
spelling										9	10	
written										9	9	9
neatness										8	10	8
oral										10	7	11
Arithmetic/Math.			X			X			X			
basic arithm.										7	10	
problems										7	10	6
neatness										8	8	8
oral										7		5
English		X			X			X				
written										7		7
oral										8	9	7
German			X			X			X			
written										9		10
oral										9	10	13
Physics/Chemistry			X			X			X	6	9	
Latin												
French									X	9	10	
Needlework						X				10	11	
Woodwork						X			X	8	8	
Home Economics						X			X	7	9	
Typing									X	8	9	

The pupil has also received instruction in the following subjects after the 7th form:

Physical education and sport, religious education, contemporary studies, history.

Geography, Biology

School

Headteacher

Name and address:

XX

Date and signature

Chapter 3

Upper Secondary Education

Overview

Upon completion of compulsory education after grade 9 or 10, students may enroll in one of a variety of types of upper secondary education. Approximately 40% opt to study in academically oriented general upper secondary education programs offered at a *gymnasium* or *HF* course. The Student Examination or Matriculation Exam (*Studentereksamen*) taken at the end of 3-year academic programs is the most common qualification for admission to tertiary education. Parallel to the *Studentereksamen* is the 2-year Higher Preparatory Examination (*Højere forberedelseksamen/HF*), which also prepares students for university higher education or specialized tertiary institutions. Students may follow alternative paths to gain these qualifications:

1. A 2-year *Studenterkursus* leads to the Student Examination, administered at independent schools, and the curriculum covered and exams are almost identical to those in the regular *gymnasium*. The *HF* as well as the *Studentereksamen* may also be taken on a single-subject basis through courses offered in a variety of places such as the *gymnasieskole* or in continuation schools (*efterskoler*).
2. Secondary commercial programs offered in secondary commercial schools (*handelsskoler*) and secondary technical programs offered in secondary technical schools (*tekniske skoler*) are completely school-based and also prepare students for tertiary education. The Higher Commercial Examination (*Højere Handelseksamen/HHX*) and the Higher Technical Examination (*Højere Teknisk Eksamen/HTX*) are comparable to and have equal status with the Student Examination (*Studentereksamen*), and are qualifications accepted by higher education institutions for admission with certain limitations. Tables developed in Denmark compare the levels of the various examinations so that tertiary institutions can be very specific about their admission criteria. The admitting tertiary institutions may also have additional

requirements such as specific secondary level course distribution or exam level requirements for particular programs. Beginning in 1995 tertiary institutions will have additional requirements.

3. After grade 9 students may also elect to follow a vocational or apprenticeship training program. These programs are currently based on a first year of theoretical coursework, usually followed by 3 years of apprenticeship, after which they receive a Journeyman's Certificate (*Svendebrev*) in their chosen field. After receiving the *Svendebrev*, students may then follow the 2-year *HHX* or *HTX* programs. After grade 9, students may also elect to follow agricultural education training (*Landbrugsuddannelser*). This type of vocational education is specific to agriculture and prepares students to be Agricultural Assistants, Veterinary Assistants, Agriculture Mechanics, or Fisheries Assistants. The Farmers Union Education program prepares students for various types of work in agriculture through boarding school programs (*Landbrugets grunduddannelse*) that last 3.5 years (see Chapter 6).

4. Social and health education (*social-og sundhedsuddannelser*) training programs are also available after grades 9 or 10 of the *folkeskole*.

Academic Upper Secondary School

There are approximately 160 upper secondary schools (*gymnasieskoler*) in Denmark that offer 3-year academic upper secondary education programs. Approximately 6% of these schools are private. As recently as 40 years ago, the program accepted only 7% of a given age group, while today it accepts almost 40%, having become less elitist than it was early after World War II.

County councils are responsible for financing and running upper secondary schools. Parliament passes educational acts that determine the framework of the system and examinations. The Ministry of Education, responsible for the quality of education, determines the content and goals of the

subject matter, and formulates and supervises the grading of written examinations. Teachers are responsible for developing lesson plans and teaching. Local school boards have family and student representatives as well as elected officials and teachers. The maximum class size is 28 and attendance is mandatory.

The aim of the upper secondary program is to provide a strong general education as well as to prepare students for continued studies at the tertiary level. Students are admitted to the *gymnasieskole* based upon a recommendation from the previous school, the *folkeskole*. The recommendation may say they are "qualified," "possibly qualified," or "unqualified" to study at this level. If judged to be in the latter two categories, students may apply to have an interview to enable the *gymnasieskole* to assess their maturity and readiness. This interview is given at the school the applicant has chosen to attend.

Depending upon choice of study line (mathematics or language), students are further required to have obtained certain marks on their Leaving Examination (*Afgangsprøve*) or Extended Leaving Examination (*Udvidede Afgangsprøve*), in certain subjects, from the lower secondary school. For entrance to the language line, students need German or French and for the mathematics line, physics/chemistry.

The language and mathematics lines share a core of obligatory subjects and also allow a choice among a number of optional subjects, differing from school to school, at intermediate and high level. At least two of the subjects chosen must be at the high level. At least half are common compulsory subjects for both lines of education and are labeled as "obligatory" on English translations of the transcripts. They include Danish, history, religious education (students may apply for an exemption), visual arts, classical studies, foreign languages, biology, music, and sports (see Tables 3.1 and 3.2 for curriculum). English is a compulsory subject in the mathematics line, and natural sciences must be studied in the language line. After year 1 of upper secondary school, students must choose one optional subject. After the second year, students must choose two or three optional subjects, at least two of which must be at the higher level. In the language line, one of the high level electives must be a foreign language; in the mathematics line, one high level elective must be math, physics, chemistry, biology, music, or social sciences.

The schools put heavy emphasis on writing. A major written assignment in Danish is required in year 1 of upper secondary school (1. *gymnasieklasse*).

Table 3.1. Curriculum at the Upper Secondary School: Languages Line
(number of 45-minute weekly lessons by year)

Subject	1st	2nd	3rd
Religion	-	-	3
Classical studies	-	-	3
Danish	3	3	4
English	4	4	-
German or French (continuation lang.)	4	4	-
Beginner language	4	4	-
Latin	3	-	-
History	3	3	3
Geography	-	3	-
Biology	3	-	-
Natural sciences (mathematics-physics-chemistry)	3	4	-
Music	3	-	-
Visual arts	-	-	2
Physical education and sports	2	2	2
Optional subject	-	4-5	14-15
Total	32	31-32	31-32

Table 3.2. Curriculum at the Upper Secondary School: Mathematics Line
(number of 45-minute weekly lessons by year)

Subject	1st	2nd	3rd
Religion	-	-	3
Classical studies	-	-	3
Danish	3	3	4
English	3	4	-
Beginner/ (continuation lang.)	4	4	-
History	3	3	3
Geography	-	3	-
Biology	3	-	-
Physics	3	3	-
Chemistry	3	-	-
Mathematics	5	5	-
Music	3	-	-
Visual arts	-	-	2
Physical education and sports	2	2	2
Optional subject	-	4-5	14-15
Total	32	31-32	31-32

In year 2 of upper secondary school (2. *gymnasieklasse*), a major written assignment in history is required. In year 3 of upper secondary school (3. *gymnasieklasse*), students have a major writing as-

signment that must be accomplished in a 1-week period, during which all other teaching is suspended. The student works with a teacher appropriate to the topic chosen. The topic must be either about Danish (literary analysis of Danish or foreign texts, or linguistics), history, or an optional subject the student is taking at the high level. This major written work is a requirement of the *Studentereksamen*.

Instruction in optional subjects at the intermediate level is given for 1 year with 4 weekly lessons. In geography as well as mathematics, physics, and chemistry in the languages line, instruction is given in year 3. Instruction in the other subjects is given in either years 3 or 4. Classes may consist of students from both years. The intermediate level options are for both lines: Latin (a different syllabus in the two lines), social studies, geography, biology, chemistry (a different syllabus in the two lines), computer sciences, technical studies, business economy, philosophy, psychology, drama, music, physical education and sport, visual arts, film and TV studies, design, and for the language line only, mathematics and physics.

Table 3.3. High Level Optional Subjects in the Upper Secondary Curriculum
(number of 45-minute weekly lessons by year)

Subject	2nd	3rd
Latin	5	5
Social studies	5	5
Music	5	5
Greek	5	8
Biology	5	5
Chemistry	4	5
English	-	5
German (continuation or beginner)	-	5
French (continuation or beginner)	-	5
Spanish	-	5
Italian	-	5
Russian	-	5
Mathematics	-	5
Physics	-	5

Students are continuously evaluated during their 3 years in the upper secondary school. Term marks, marks for the year's work, and examination results are recorded at the end of each year. The regular examination period is May and June, and for make-up exams, August and September.

End-of-year marks are given by the teacher of the subject. In subjects that will be examined

through the Upper Secondary School Leaving Examination (*Studentereksamen*), both written and oral marks are given for the year's work. No marks are given for physical education. Students may not take an examination at the same level in the same subject more than twice, and repeated exams may not occur in the same examination period. Exam schedules are not posted until the last teaching day.

The culmination of the course of study is the Student Examination (*Studentereksamen*), which is also the entrance qualification for the university and other tertiary institutions. This examination incorporates a total of 10 subjects and one major written work, as explained above. All subjects, both compulsory and optional, are examined except physical education, music, and visual arts. The examinations are taken in the year that the student completes study in the subject concerned. The examinations are comprehensive in nature and not end-of-year exams. At the end of the final year, students must pass written exams in Danish and all high level subjects.

The Ministry of Education determines which oral exams will be offered at each gymnasium and in each class. In reality, each student has an individual schedule of oral exams since most of the subjects are chosen individually; exceptions are Danish, history, and other common compulsory subjects. Students have a different pattern of written exams depending on their choice of subjects and levels. One student may pass a medium level subject in 1.- or 2. *gymnasieklasse*. Another student with different elective subjects may not have an exam, which means one more exam at a later date. Students must pass 10 official exams during the 3 years, both written and oral. These form the official examination marks of the *studentereksamen*.

Written exams are prepared by the Ministry of Education and marked by two external examiners. Oral exams are marked by the teacher and one external examiner, as is the major written assignment. Teachers report what they have taught and the selection of oral examinations they wish to offer to the Ministry of Education. National advisers for the various subjects control the decisions. The year's mark (*årskaracter*) in the grade in which instruction is concluded in a given subject is included in the upper secondary school record. If no examination is given, the year's mark is also counted as an examination mark, later referred to as a transferred mark (*overført eksamenskaracter*). For students in the language line who choose English at the high level, the mark in written English is determined by combining the

mark for the examination at the obligatory level with the mark for the exam at the high level in the proportion of 1:2. The same marking formula is used when students in the mathematics line choose mathematics at the high level. There are both written and oral comprehensive examinations for optional subjects taken at the high level. Students with more than 15% absence lose their right to receive a year's mark, must take exams in all subjects, and may have an extended course of study. This means they will have more than 10 exams during their 3 upper secondary school years.

For students who pass the *Studentereksamen* examination, an Upper Secondary School Leaving Certificate (*Studentereksamensbevis*, see Document 3.1) is awarded. The certificate will state the marks for the year's work, the examination marks, including transferred marks that are expressly stated as such, the grade point average of the year's mark, and the examination result. If a student does not meet the requirements of a *Studentereksamen*, no certificate will be issued. The following grading scale is used:

- 13- Exceptionally independent and excellent performance
- 11- Independent and excellent performance
- 10- Excellent but not particularly independent performance
- 9- Good performance, a little above average
- 8- Average performance
- 7- Mediocre performance, slightly below average
- 6- Somewhat hesitant but more or less satisfactory performance
- 5- Hesitant and not satisfactory performance
- 03- Very hesitant, very insufficient and unsatisfactory performance
- 00- Completely unacceptable performance

The minimum passing mark is a 6. The mark of 6 is described by law as "corresponding to a level of proficiency or performance where the student has demonstrated the least measure of understanding, knowledge and skill by which a pass could be achieved if one supposed that the instruction or the examination included only one subject." The marks of 00 and 13 are both considered exceptional, and only used infrequently. The mark of 00 is given when a student shows "no understanding of the syllabus." The mark of 13 is "given for the exceptionally independent and excellent performance, the basis for which is not perfection in itself, but a supreme level of proficiency or complete understanding of a problem or a subject." It

indicates broad knowledge of and internal cohesion of large parts of the material. This means that even a mathematics exam with all of the questions answered correctly will not receive a grade of 13.

In order to pass the *Studentereksamen*, the sum of all marks must be at least six times the total number of marks, although in this calculation some marks may be weighted more than others. The calculation applies to the marks for the year's work as well as the examination mark. It prevents students from passing if they have absolutely no knowledge in a few subjects. In order to pass, students must show general knowledge across the board.

Higher Preparatory Examination

This examination (*Højere forberedelseksamen/HF*) is a parallel 2-year upper secondary educational program that is academic in nature, leading to further study in universities and other tertiary education programs. It consists of examinations, rather than a course of study, as indicated by its name. It was introduced in 1967 as a means to provide opportunities for people who want further education but who have already been in the work force. Initially it was intended primarily as an alternative route into teacher education, but has become successful over the years as a "second chance" education program and grown accordingly. Many students who prepare for the *HF* are slightly older than those in the *gymnasieskole*, but over time it has become an alternative route for younger students as well. Preparation for the examination may take place in single-subject courses or by means of a 2-year course of study taken on a fulltime basis. Examinations in the single subjects can be pieced together to form a full higher preparatory examination. The *HF* classes and courses are given in the regular upper secondary schools, teacher training colleges, adult and continuing education programs, and elsewhere.

The Ministry of Education centrally controls the *HF* by determining the regulations, subject-matter content, examination syllabus, assessment, marking, and certification. A student may be admitted to the program in one of two ways:

1. Students must have completed grade 10 of the *folkeskole* and passed the Extended Leaving Certificate (*Udvidede Afgangsprøve*) in Danish and two other subjects (mathematics, English, German, or French), and also must have been recommended by the school as being prepared to follow the course; or

Table 3.4. Compulsory Curriculum for the Higher Preparatory Examination (*Højere forberedelseseksamen/HF*) with number of lessons per week

Common Core Compulsory Courses	Semester			
	1st	2nd	3rd	4th
Religious Education	0	0	3	3
Danish	3	3	4	4
English	4	3	4	4
German	3	3	0	0
History	3	3	3	3
Social Studies	2	2	0	0
Geography	3	2	0	0
Biology	3	2	0	0
Mathematics	5	5	0	0
Music or Art	2	2	0	0
Physical Education	2	2	0	0
Total core classes per week	30	27	14	14

Table 3.5 Optional Subjects for the Higher Preparatory Examination (*Højere forberedelseseksamen/HF*) with number of lessons per week

Optional Courses	Semester				Points
	1st	2nd	3rd	4th	
English	0	4	7	7	7
German	0	0	5	5	10
Third foreign language*	0	3	4	4	11
Social Studies	0	0	3	3	6
Biology	0	0	4	4	8
Chemistry	0	0	5	5	10
Physics	0	3	5	5	14
Mathematics	0	0	6	6	12
Computer Sciences	0	0	4	4	8
Psychology	0	0	3	3	6
Music	0	0	4	4	8
Art	0	0	4	4	8
Physical Education	0	0	4	4	8

Note: In addition, all students must receive instruction in data processing.

* Third foreign language is either French, Russian, Spanish, or Italian.

2. The student has completed the primary and lower secondary school after grade 9 and has been out of school for at least 1 year, and is found eligible by the school.

In order to pass the complete *HF* examination, a student must take exams in all the core subjects except visual arts, music, physical education, and sports (See Table 3.4). The student must also take exams in sufficient optional courses to obtain 20 points (See Table 3.5 for the number of points given for optional subjects). A full *HF* examination may qualify the holder for admission to higher education. There may, however, be additional requirements made by the tertiary programs of certain optional subjects or for the completion of a subject at a certain level.

The exams are both written and oral. With oral exams, the teacher prepares the questions that must be approved and later marked by an external examiner as well as the teacher. Written exams are prepared by the Ministry of Education and are marked centrally under supervision of the Ministry. The grading scale follows that used in the gymnasium. Students may pass the *HF* as a "package" or may accumulate sufficient individual courses to make up the complete examination. No marks are given during the course. Teachers are required to discuss progress with the students. Students who pass the *HF* are given a certificate showing examination marks (see Document 3.2). Single subject exam results are also issued (see Document 3.3).

Alternative Secondary Academic Qualifications

Studenterkursus

The *Studenterkursus* is available for adults and students who have been out of the formal education system for at least 1 year after the ninth grade and are therefore older than other students in the *gymnasieskole* with further upper secondary academic training. This is a 2-year intensive course of study that prepares students for the *studentereksamen*. Students do not have to take subjects not examined in the *Studentereksamen* (visual arts, music, physical education and sport) that they would have to take in the regular *gymnasieskole*. The *studentereksamen* on a single-subject basis is becoming a very important part of the courses offered during the *studenterkursus*.

Foreign Student Qualification

Before 1992 refugee and international pupils attended an educational program called *Gymnasialt Indslusningskursus for Flygtninge/GIF*, which offered preparation and examinations in Danish as a second language as well as preparation for an examination similar to the required Secondary School Examination. They were eligible if they had 12 years of previous schooling in their home country, had 4 years of instruction in English, had taken a mathematics examination, and possessed a command of the Danish language at a level sufficient to enable them to perform academic work. The successful completion of this program allowed students to apply for admission to the tertiary educational system in Denmark. There were two courses:

1. Mathematics/physics line (weekly lessons):

Danish	5
History/Social Studies	4
English	6
Mathematics	6
Physics	6
Chemistry	5

2. Mathematics/social studies-economics line (weekly lessons):

Danish	5
History	4
English	6
Social Studies	10
Mathematics	6

The level of the examination at the end of the year of study was approximately that of the *Studentereksamen*.

In 1993, the Department of Upper Secondary Education in the Ministry of Education intro-

duced a new upper secondary absorption course for foreign students called *Gymnasialt Indslusningskursus for Fremmedsprogede Gennemført på Forsøgsvilkår i henhold til HF-bekendtgørelsen* as an experiment in accordance with an executive order concerning the *HF* course. The course is for students whose first language is not Danish and who have completed upper secondary school in their home country, which in Denmark does not qualify them for admission to Danish tertiary studies.

This 1-year course is offered in two subject combinations, with the possibility of combining subjects from the two lines as well as from other *HF* single-subject classes.

Subject Combination 1 (weekly lessons)

Danish as Second Language	5
History for Foreign Students	4
Social Studies	2
English	4
Mathematics	5

The classes in Danish and history are designed specifically for foreign students. The other subjects are taught in accordance with normal conditions for *HF* subjects.

Subject Combination 2 (weekly lessons)

Mathematics	5
Physics	5
Chemistry	3

The examination requirements are the same as for *HF* examinations. Students who want to continue their studies at a natural sciences department or at the technical university follow Subject Combination 1 and supplement it with subjects from Subject Combination 2. Students who want to continue in a humanistic department only follow Subject Combination 1 and supplement with other single-subject *HF* courses, depending on the specific admission requirements to the course of study they wish to pursue at a university (see Document 3.4).

International Baccalaureate

This program is taught in Denmark at the following three institutions:

Copenhagen International School
Gl. Gammel Kongevej 15
1610 København V, Denmark
Phone: +45 31 21 46 33

Nørre Gymnasium (in Copenhagen)
Mørkhøjvej 78
2700 Brønshøj, Denmark
Phone: +45 44 94 27 22
Fx: +45 44 94 26 69

Birkerød Gymnasium
Søndervangen 56
3460 Birkerød, Denmark
Phone: +45 42 81 02 56
Fax: +45 82 02 57

Vocational Upper Secondary Programs

Vocational education has played a prominent role in Danish education since the late nineteenth century. In the mid-1950s, training was available only through 3- to 4-year apprenticeship programs. Trades were learned by daily participation in the work, supplemented by evening classes. In the 1960s and 1970s, new types of upper secondary vocational education and training programs called *Erhvervsfaglige Grunduddannelser* (EFG) were introduced to strengthen the academic portion of the training. EFG required a 40-week basic introduction course at a technical or commercial school, which was common to 300 specializations in eight main vocational fields.

In 1991 all basic vocational courses, including apprenticeship, were combined into a single system of vocational education called *Erhvervsuddannelser* (EU), which was implemented at commercial and technical schools throughout Denmark. The number of vocational courses was reduced from 300 to approximately 85. (See Appendix I for list of vocational courses offered and the length of study required.) All vocational education now begins with a 1-year basic commercial or technical vocational course, the *Højere Grunduddannelser* (HG). After the HG, students enter apprenticeships or workshop programs that train them in specific vocations.

The concept of vocational education is based on alternating periods of on-the-job training and attendance in classes. The goal of the program is for students to learn theory through working with practical assignments and problems. In principle, all of the students have the right to vocational education, but in practice certain fields (informatics assistant, hairdresser, industrial book-binder, etc.) are restricted because the Ministry feels that there are too few employment possibilities in these fields. Students may enter vocational education directly from lower secondary schools or through a formal apprenticeship contract with a commercial firm. They receive ongoing assessment of their work in classes and supervision of their apprenticeship or workshop classes, and conclude their courses with a practical proficiency test. Upon completion of the apprenticeship, students receive a vocational certificate (*Seendebrev*) specific to their field (see Document 3.5). Holders of a *Seendebrev* may then return to either commercial or technical upper secondary schools to pursue either *Højere handelseksamen* (HHX), or *Højere teknisk eksamen* (HTX). Most go directly into employment.

Upper Secondary Commercial Education

Upper secondary commercial education makes it possible for qualified students to go directly from lower secondary school (grade 9 or 10) to a 3-year vocational course and spend the last 2 years in an actual upper secondary commercial school program that leads to the Upper Secondary Commercial Examination (*Højere handelseksamen* (HHX)).

The present courses leading to the HHX are intended to provide qualified young people with a general commercial education that will admit them to higher education, as well vocational education programs. In 1988 the exams were granted status equal to the other upper secondary exams (*Studentereksamen* and the *Højere forberedelseksamen* (HF)). The new courses include all the optional subjects that upper secondary schools are required to offer. The subjects are divided into levels that allow comparability with the upper secondary academic program. These levels, A being the highest and C the lowest, are common to all upper secondary education courses offered in Denmark regardless of the program, in order to strengthen the academic aspects of vocational education.

The 3-year course consists of a first year basic course, *Højere Grunduddannelser* (HG), for all students whether they seek a strictly vocational training program or the HHX. The basic course is an introduction to commercial education followed either by further apprenticeship work or school workshops, or by 2 years of academic commercial study. The basic course includes marketing and service, electronic information retrieval and processing, accounting and business economics, two foreign languages (English is compulsory), Danish social studies, trade, industry and culture, and economics. On completion of the first year, students receive the Basic Vocational Education Certificate (*Højere Grunduddannelser* (HG)). To be admitted to the higher commercial examination course, the student must be declared qualified by the commercial school after the first year and meet other specific academic requirements, especially with respect to the requirement of foreign language skills.

For the higher commercial examination (HHX) course, students must have completed English at the highest level in the basic year so they can start at level B in the first year of the HHX course (level A is the highest and level C the lowest upper secondary level). Another foreign language is required at least at the intermediate level in the basic year. The student whose second language is taken at the intermediate level must also have either a third foreign language at the intermediate level, or mathematics. Students must choose either the economics/languages line or the economics/mathematics line for the final 2 years of the HHX course.

Approximately two-thirds of the courses in the commercial upper secondary program are obligatory, the remaining third optional. The obligatory subjects, which comprise 1,320 lessons of 45 minutes duration, are:

Danish	Level A
English	Level B
Accountancy, Business Econ.	Level B
Marketing	Level B
Economics	Level C
Commercial Law	Level C
International Trade	Level B
Contemp. History w/Culture	Level C
Inf. Processing w/Organization	Level C
Major written assignment in a 1-wk. period	

Optional subjects comprise approximately 880 lessons covering a broad range, but the schools must always offer mathematics and at least three of the following four foreign languages: English, German, French, and Spanish. Three business economics optional courses equaling 160 lessons frequently taken are accountancy and business economics, external economic information, and production economics. All students must continue with one foreign language in the second year of the course. See Table 3.6 for the list of examinations that form part of the final *HHX* examination.

The Ministry of Education decides each year which exams will be given. Students normally take a minimum of 10 and a maximum of 12 exams. Examination questions are drawn up at the central level. The grading scale, 13 to 00, with 13 the highest grade, is the same as used for the *Studentereksamen*. Upon completion an *Eksamens-*

bevis for Højere Handelseksamen is awarded (see Document 3.6).

Upper Secondary Technical Education

Vocational training leading to the upper secondary Higher Technical Examination (*Højere teknisk eksamen/HTX*) was established in 1982, on a trial basis, to create a new way to access higher education in the technical area. It was intended to encourage skilled workers to continue studies at the engineering colleges. The *HTX* became permanent in 1988, at which time it was granted the status of a qualifying examination equal to the other upper secondary school leaving examinations that allowed access to tertiary education. In 1992, of the 2,500 students admitted to the *HTX* program, only 1% were female.

Students may enter vocational upper secondary training by going directly into a technical secondary school or by entering into an apprenticeship contract with a firm. Students who enter directly into technical schools undertake a basic first course of 20 weeks (*grundkursus*) designed to introduce students to vocational education. The course contains compulsory and optional components, and students over 18 and those already in apprenticeships are not obliged to take the first 20-week basic course. All students must take the second 20-week course, which offers further general education and vocational information.

Following this period of 20 to 40 weeks of basic education, students apply for technical vocational education in a specific area. Admission is based on assessment of the student's maturity, independence, and grades in the basic courses. For the *HTX*, particular admission requirements include knowledge of Danish, mathematics, physics (sciences), foreign languages, and experience from a workshop-related subject. In order to continue studies beyond the second school period, students must have a training contract with an industry or firm. The schools will arrange such a contract, or, if the student is unable to obtain one directly, the school will create school workshops for them.

Instruction in the 2-year course consists of technological subjects, including workshop instruction, natural sciences subjects, language subjects including Danish, and social sciences subjects. Trade committees lay down the detailed structure of the technological courses (see Table 3.7), and most courses are taught at the intermediate level of the academic upper secondary school. One-third of the time is used for optional subjects, of which at least two must be at the highest upper secondary level.

In the last year of the *HTX* program, the course is divided into several lines: building technology, mechanical, electrical, and process-technical, with heavy emphasis placed on technical topics. Students may take the required *HTX* examinations

Table 3.6 Examinations that form part of the Final *HHX*

Subject	Examination
Danish	Oral+Written
English	Oral+Written
Other Foreign Language	Oral+Written
Accountancy and Business Economics	Written
Business Economics	Written
Optionals	
Marketing	Written
Economics	Oral
Marketing	Oral
Commercial Law	Oral
International Trade	Oral
Contemporary History with Culture	Oral
Data Processing with Organization	Oral
Mathematics	Oral+Written (level C, only Written)
Other Optional	Oral

Table 3.7 Course Requirements for the Higher Technical Examination/HTX-Course (1991)

Subject	Level	Total hours	Years of Study		Optional hours
			1	2	
Technology	*B	250	250		
	A	420	250	170	
Technical Subject	B	320		320	320
	A	490		490	320
Mathematics	*B	325	185	140	
	A	495	185	310	
Physics	*B	215	215		
	A	385	215	170	
Chemistry	*C	140	140		
	B	225	140		85
	A	395	140	170	85
Biology	*C	120	45	75	
Danish	*B	220	130	90	
English	*C	210	120	90	
	B	295	120	90	85
2nd foreign language	C	130		130	130
	B	300	130	85	85
Social Studies	*C	75		75	130

* Subjects are obligatory for a total of 1550 lessons

Table 3.8. Higher Technical Examination/HTX Showing Schedule and Type of Examination (P = Practical, O = Oral, W = Written)

Subject	Level	End of 1st year	End of 2nd year	School's Option
Technology	B	P+O		
	A		P+O	
Technical Subject	B		P+O	
	A		P+O	
Mathematics	B		W+O	
	A		W+O	
Physics	B	O	W+O	
	A		W+O	
Chemistry	C	O		
	B			O
	A		W+O	
Biology	C		O	
Danish	B		W+O	
English	C		O	
	B		W+O	
Second foreign language if continuing	C	O		
if beginning	C			O
	B		W+O	
Social Studies	C		O	

throughout the 2-year period and all students must take a minimum of 10 and a maximum of 12 examinations. Examinations may be practical, written, or oral. (See Table 3.8 for the examination schedule.) Graduates of the HTX course meet both theoretical and general, as well as vocational, requirements for entry to advanced technician's courses and the engineering colleges. The HTX (see Document 3.7), also gives admission to other higher education institutions, though students in the program rarely pursue a nontechnical tertiary education.

Basic Social and Health Training Programs

In 1991 a new Basic Social and Health Training line was added to the Danish secondary system of education. The courses are more general in nature than previous courses that led to specific vocations, such as occupational therapy assistants, practical nurses, nursing home assistants, etc. The program of study combines theory, practice, and action-oriented teaching with general nursing qualifications to provide two levels of caretakers with a general orientation to allied health fields.

There are three sequential levels of qualification:

1. a 1-year basic training program for social and health service helper (*social- og sundheds hjælper*);
2. a 1.5-year training program for social and health service assistants (*social- og sundheds assistent*); and
3. further education leading to qualifications in nursing, occupational therapy, etc.

(As of 1993 detailed regulations on the last qualification to the professions had not been established.) Students must have a practical training position prior to admission to the program.

The training program for helpers includes five obligatory areas:

1. practical subject group
2. cultural activity related group
3. pedagogical/psychological subject group
4. sociological subject group
5. nursing subject group

Practical training takes place in municipalities, in the homes of clients, and in nursing homes. The activities undertaken include practical and personal assistance, activation, and elementary nursing tasks.

The training program for the assistants includes six obligatory areas:

1. work/organizational subject group
2. sociological subject group
3. cultural activity related subject group
4. pedagogical/psychological subject group
5. medical subject group
6. nursing subject group

Practical training takes place in municipalities and counties, within the somatic hospital service. The

activities undertaken include care, activation and basic hygiene, and nursing.

The student's work is assessed during the whole training program on the basis of examinations, assignments, or by general proficiency statements on completion of the practical training periods. The Ministry of Education appoints external examiners for the final examination to ensure the quality and homogeneity of the training programs and to ensure that students are assessed fairly and objectively.

Upon completion of each of the training programs, the student is given a certificate that indicates the title of the training program, *social- og sundheds hjælper* or *assistent*, the examination results, and general proficiency statements as well as the type of practical training situations in which the student worked.

Home Economics Education

There are approximately 25 home economics schools in Denmark. They are state subsidized, free, independent schools for students over the age of 16. Instruction consists of general information with emphasis on health and society, and family and housekeeping. The courses range from 1 week to 1 year, and each school creates its own programs. Emphasis can be placed, for example, on handicraft, children in the family, or sports activities. The kitchen assistant's course, which is a vocational education program, takes place in the home economics school and is 2 years in duration, including periods of practical training.

It is also possible to follow a 3-year course to become a matron. Forty weeks of the program takes place in home economics schools. Admission to the matron's course requires completion of a 12-month period of practical training in an institution, and the course itself consists of a second 12 months of practical training in an institution. Matrons work as staff members or leaders of staff in kitchens in primary and lower secondary schools, and in agricultural and continuation schools as well as in institution kitchens.

Transfer Between Upper Secondary Programs

Very infrequently, students move from one type of upper secondary program to another type of program. In these cases, students are exempted from instruction and examination in subjects in which they have already passed an examination with a mark of 6 or better at the same or a higher level in one of the other upper secondary programs. The mark previously obtained is transferred to the new examination certificate. The headmaster may also exempt a student from instruction and examination in a subject in which the student has passed an examination at the same or a higher level in another upper secondary educational

program such as that of a foreign institution. In this case however, the mark, is not transferred to the new certificate.

Subjects taught in the different types of upper secondary education have been divided into three levels: A (high level), B (intermediate level), and C (lower level). Each subject has been placed according to a concrete assessment based upon the total number of lessons, requirements for the student's foundation in the subject, immersion in

the subject, a written examination, and teacher's qualifications. This means that a subject taught in two types of upper secondary education can be placed at the same level, although the exact content of the subject may vary slightly. For example, a student who has passed the Higher Commercial Examination/HHX, with French at the B-level may have the mark transferred to a Higher Preparatory Examination certificate as equivalent to French as an optional *HF* subject.

Studentereksamensbevis - Matematisk linje

Navn

CPR nr.

Eksamensår

Obligatoriske fag	Årskarakter	Eksamenskarakter	
		Ved prøve	Overført
Billedkunst (vægt 1/2)			
Biologi			
Dansk, skriftligt			
Dansk, mundtligt			
Engelsk			
Fysik			
Geografi			
Historie			
Kemi			
Matematik, skriftligt			
Matematik, mundtligt			
Musik (vægt 1/2)			
Oldtidskundskab			
Religion			
2. sprog			
Større skriftlige opgave:			

Valgfag på mellemniveau

Valgfag på højt niveau

Særkarakterer i skriftlig matematik

Obl niveau (vægt 1/2)	Højt niveau (vægt 2/2)	Eksamenskarakter

Årskarakter Eksamenskarakter

Gennemsnit

Eksamensresultat

Bemærkninger

R442/01 R21 RUC P. Glostrup

Dato

Rektor

Skole-kursus

Ved karaktergivningen anvendes følgende karakterskala:

- 13: Gives for den usædvanlig selvstændige og udmærkede præstation
- 11: Gives for den udmærkede og selvstændige præstation
- 10: Gives for den udmærkede, men noget rutineprægede præstation
- 9: Gives for den gode præstation, der ligger lidt over middel
- 8: Gives for den middelgode præstation
- 7: Gives for den ret jævne præstation, der ligger lidt under middel
- 6: Gives for den noget usikre, men nogenlunde tilfredsstillende præstation
- 5: Gives for den usikre og ikke tilfredsstillende præstation
- 03: Gives for den meget usikre, meget mangelfulde og utilfredsstillende præstation
- 00: Gives for den helt uantagelige præstation

Ikke anvendte rubrikker på forsiden skal være gennemstreget.
Dispensationer eller forsøgsordninger skal være skrevet i rubrikken »Bemærkninger» med angivelse af art og ministeriets j.nr. for tilladelsen.

Betingelserne for, at eksamen er bestået, er fastsat i bekendtgørelse af 23. januar 1989 § 2:

Stk. 1. For at bestå studentereksamen eller højere forberedelseksamen kræves, at summen af samtlige karakterer er mindst 6 gange karakterernes antal. I beregningerne kan visse karakterer indgå med forskellige vægte.

Stk. 2. Studentereksamen er kun bestået, hvis det i stk. 1 indeholdte krav er opfyldt både for årskaraktererne og for eksamenskaraktererne.

Ettertryk forbudt uden tilladelse fra Undervisningsministeriet, Gymnasieafdelingen.

BEVIS

for

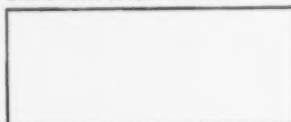
højere forberedelseseksamen

Eksaminandens fulde navn _____

CPR-nr. _____

Fag	Medtællende eksamens- karakterer	Ikke medtællende eksamens- karakterer	Eksamens- termin/-år
Fællesfag: Skriftlig dansk			
Mundtlig dansk			
Religion			
Historie			
Biologi			
Geografi			
Matematik			
Engelsk			
Tysk			
Samfundsfag			
Tilvalgsfag: Biologi			
Skriftlig matematik			
Mundtlig matematik			
Skriftlig engelsk			
Mundtlig engelsk			
Tysk			
Samfundsfag			
Musik			
Formning			
Idræt			
3. fremmedsprog: Fag			
Fysik			
Kemi			
Psykologi			
Den større skriftlige opgave:			

Skolens/kursus' stempel med skolen:



Gennemsnit _____

Dato _____

Rektors underskrift _____

Ikke benyttede rubrikker gennemstreges. I fag, hvor der foreligger dispensation, skrives „disp.“

Kursus' stempel med skolen

FORBEREDELSESKURSET I
 ROSKILDE
 Løderstræde 4, 4000 Roskilde
 Tlf. (02) 36 06 00

Attestation

for

eksaminander, der har aflagt prøve i enkelte af de af

højere forberedelseseksamen

omfattede fag.

Eksaminandens fulde navn

CPR-nr.

Forberedelseskurset i Roskilde

har ved _____
(Kursus)

aflagt prøve i følgende fag med de angivne karakterer:

Fag		Eventuelle særkarakterer	Eksamens- karakterer	Eksamens- termin
Engelsk tv	skr.		11	1988
Engelsk tv	mdt.		13	1988

Ikke benyttede rubrikker gennemstreges.

Roskilde, den 17. juni 1988.

Rektor/underskrevet

Mogens Højland

På grundlag af nærværende attestation indfører rektor for det kursus, hvor de resterende prøver aflægges, de anførte karakterer i eksamensprotokollen, idet han i protokollens bemærkningsrubrik anfører, hvor og hvornår de pågældende prøver er aflagt.

CERTIFICATE FOR EXAMINEES, THAT HAVE TAKEN EXAMINATIONS
IN SINGLE SUBJECTS OF THE HIGHER PREPARATION EXAMINATION.

SUBJECT COVERED.

EXAMINEES FULL NAME -

ID. Nr.

HAS AT

Preparation Courses in Roskilde

TAKEN THE FOLLOWING SUBJECT WITH THE AWARDED GRADES:

SUBJECT	Special Grades	Exam. Grade	Exam. Date
English (optional)	NA	Written - 11	1988
English (optional)	NA	Spoken - 13	1988

Roskilde, the 17. June 1988

VUC Roskilde
Leiderstræde 4, 4000 Roskilde
Pr. 1988-89 52 05 54 78

EKSAMENSBEVIS FOR HØJERE HANDELSEKSAMEN

Navn:

Personnummer:

har i eksamensterminen juni 1941

bestået eksamen i henhold til

Undervisningsministeriets bekendtgørelser om højere handelseksamen samt erhvervsgymnasiale uddannelser.

Fag	Årskarakter	Eksamenskarakter
Dansk, niveau A, skriftlig	8	9
Dansk, niveau A, mundtlig	8	9
Engelsk, niveau A, skriftlig	7	10
Engelsk, niveau A, mundtlig	9	10
Engelsk, niveau A, gennemsnit	8	10
Tysk, niveau B, skriftlig	8	8*
Tysk, niveau B, mundtlig	9	8
Tysk, niveau B, gennemsnit	9	8
Fransk, niveau B, skriftlig	7	10
Fransk, niveau B, mundtlig	8	9
Fransk, niveau B, gennemsnit	8	10
Matematik, niveau B, skriftlig	10	7
Matematik, niveau B, mundtlig	11	9
Matematik, niveau B, gennemsnit	11	8
Regnskabslære og virksomhedsøkonomi, niveau A, skriftlig	9	11
Markedsføring, niveau B, skriftlig	8	7
Samfundsøkonomi, niveau C, mundtlig	10	10*
Dansk og international erhvervsret, niveau C, mundtlig	9	11
International handel, niveau B, mundtlig	10	8
Samtidshistorie med kultur, niveau C, mundtlig	10	11
Informationsbehandling med organisation, niveau B, mundtlig	10	10*
EF og internationalt økonomisk samarbejde, B, mundtlig	8	11
Gennemsnit	9.0	9.5
Eksamensresultat	9.3	
Større skriftlig opgave: samfundsøkonomi	10	

Administration, juni 1993

*) overført årskarakter

 Bent Rasmus Simonsen
 Forstander

Document 3.4 HHX Diploma (Commercial Secondary School Leaving Certificate)

METALINDUSTRIENS FAGSKOLE



EKSAMENSBEVIS

HØJERE TEKNISK EKSAMEN

LINIE

Eksaminandens
fulde navn: _____

CPR nr.: _____

Eksamenstermin
og år: _____

Eksaminanden har gennemgået HTX-uddannelsen og bestået den ved undervisningsministeriets bekendtgørelse nr. 167 af 8. marts 1989 fastsatte eksamen. For faget matematik gælder dog bekendtgørelse nr. 569 af 29. juli 1991.

HTX-uddannelsen er en toårig uddannelse, hvori der kan optages elever, der har gennemført 1. del af en erhvervsfaglig grunduddannelse indenfor et af de tekniske hovederhvervsområder.

Uddannelsens formål er at give en almen og teoretisk grunduddannelse, der gennem såvel teoretisk som praktisk (værkstedsmæssig) undervisning giver eleverne adgang til et videregående uddannelsesniveau, samt dele af erhvervskompetence efter de herom gældende regler.

den _____

Skolens leder

De af eksaminanden opnåede karakterer findes anført omstændende.

Chapter 4

Advanced Technical and Vocational Education

Technical Schools

There are over 50 *Tekniske Skoler* (technical schools) offering advanced vocational training in many fields of study, e.g., heavy current technicians, electronic technicians, building technicians, and production management. In Danish documentation the word "tekniker" is often translated as "engineer." The *Tekniske skoler* are considered a part of the tertiary education system in Denmark and admission is subject to the Central Admissions System (see Chapter 5). Admission to the programs requires basic vocational training in a related field or four years of relevant work experience. Students who have the *HTX* or *Studentereksamen* must attend an 11-month training school before undertaking a vocational program.

The full course leads to a *Tekniker Eksamen* (Technician degree) in a specific field, e.g., *Bygningskonstruktør* (Construction Architect). Programs of study can range from 1.5 to 4 years. Many programs are completed on a part-time basis. Each semester in the program lasts 6 months. At the end of 3 semesters a *Bevis* (Certificate) designating completion of the basic course is given. Some of the programs (e.g., Production Management) are more modularized than others and award a *Bevis* (Certificate) upon completion of each subject passed. Programs are offered in the following areas. The length of each program is indicated in parentheses following the title.

Byggetekniker (1.5 yrs.) Building system technician
Bygningskonstruktør (2 yrs.) Construction architect
Datamatiker (2.5 yrs.) Computer technician
Edb-assistent (1.5 yrs.) Computer assistant
Eksporttekniker (4 yrs.) Export technician
Elektroniktekniker (1.5 yrs.) Electronic technician
El-installatør (1.5 yrs.) Installer
GVS-mester (1.5 yrs.) GVS (gas, water or sanitary) master

Hotel-og restaurantleder-uddannelsen (1 yr. 10 mos.)
Hotel and restaurant education

Industriel produktudvikler (2 yrs.) Industrial product developer

Kemitekniker (1.5 yrs.) Chemistry lab technician
Laboratorie-/miljøtekniker (1.5 yrs.) Laboratory, environment, process technician
Landmålingstekniker (1 yr.) Survey technician
Levnedsmiddeltekniker (1.5 yrs.) Food science technician
Maler (videregående) (1.5 yrs.) Advanced painter
Måletekniker (1.5 yrs.) Measurer
Markedsøkonom (2 yrs.) Market economist
Maskintekniker/Maskinmester (1.5 yrs.) Machine technician/Machine master
Mejeritekniker (1 yr.) Dairy technician
Økonoma (2 yrs.) Dietitian
Produktionstekniker (1 yr.) Production technician
Stærkstrømstekniker (1.5 yrs.) Heavy current technician
Trætekniker (1.5 yrs.) Wood technician

Emphasis is on technical subjects but business management courses (economics, organization, general management, operational management, and labor law) as well as theoretical and project training are included. Upon graduation in a specialized field, students have the necessary theoretical knowledge to achieve certification in a vocational field. The schools also offer short courses for specialized training.

Sample Programs

Building System Technicians/Constructing Architects: Building System Technician (*Byggetekniker*) and Construction Architect (*Bygningskonstruktør*) programs are both offered at *Byggeteknisk Højskole* (The Copenhagen Polytechnic, literally, The Higher School of Building Technology), Drejervej 17, DK 2400 København NV, Denmark. Phone: +45 31 81 22 90. Fax: +45 31 81 08 80.

Admission is based on practical experience at a building site (e.g., an apprenticeship education after 10 years of schooling), or on an upper secondary school leaving certificate plus 1 to 1.5 years of practical experience. All must have practical experience as it is not built into the curriculum. The program is also offered at other technical schools.

The first 1.5 years are spent qualifying the student as a building system technician (*byggetekniker*). The second 2 years, for a total of 3.5 years, qualifies the student as a construction architect (*byggningskonstruktør*). There are 20 weeks in each of 7 semesters, with each week comprising approximately 33 lessons (contact hours) in classes of 15 to 25 students. The main subjects are building construction, planning, management and supervision, material science and properties, structural engineering, building services and physics, drawing techniques, math, physics, chemistry, Danish, and foreign languages. All of the coursework is heavily computer supported. There are concentrations on roads, soil regulation, and other pre-building activities. Upon completion of the 3.5 year program, students receive the title Construction Architect.

Maritime Engineer: Students are trained at eight marine engineering schools (*tekniske skoler*). Courses are fulltime and extend over a 3-year period. Admission to the program requires completion of 10 years of primary and lower secondary school, with an Extended School Leaving Examination (*Udvidede Afgangsprøve*), passing marks in mathematics, physics/chemistry, Danish, English, and German plus practical training of either: (1) a 12-month course at a workshop school followed by 18 months of practical training as an assistant engineer at sea and/or as an apprentice ashore; or (2) an apprenticeship in a trade such as machine-tool fitter, ship builder, construction smith, mechanic, or equivalent. (There is a workshop school affiliated with each maritime engineering college.)

The curriculum includes electrotechnology and electronics (1,200 lessons), mechanical engineering (1,020 lessons), maritime legislation (40 lessons), first aid and hygiene (60 lessons), Danish (60 lessons), English (160 lessons), German (100 lessons), personnel management (60 lessons), mathematics (260 lessons), physics (200 lessons), chemistry (120 lessons), economics (80 lessons), and automation and computer technology (240 lessons). Each year comprises a total of 1,200 lessons. Students also must complete courses in practical firefighting and in the function and use of life saving appliances.

Credentials Awarded:

Skibsmaskinist af 2.grad (Mechanic, 2nd Class): Requires satisfactory completion of first-year examinations and at least 12 months of sea service as an Assistant Engineer Officer. The credential entitles the holder to act as a Second Engineer Officer on ships under 3000 kW propulsion power or as Engineer Officer in charge of

the watch on ships having 3000 kW propulsion power or more.

Skibsmaskinist af 1.grad (Mechanic, 1st class): Awarded to holders of Mechanic, 2nd class after an additional 12 months of sea service as an Engineer Officer. The credential entitles the holder to act as Chief Engineer on ships under 3000 kW propulsion power.

Skibsmaskinmester af 2.grad (Ship's Engineer, 2nd class): Awarded on completion of the 3-year Marine Engineer's course and at least 12 months of service as Assistant Engineer Officer. The credential entitles the holder to act as Engineer Officer in charge of the watch on ships with 3000 kW or more.

Skibsmaskinmester af 1.grad (Ship's Engineer, 1st class): Awarded to holders of Ship's Engineer, 2nd class on completion of 12 months of additional sea service as Engineer Officer. The credential entitles the holder to act as the Chief Engineer on ships under 3000 kW propulsion power.

Skibsmaskinchef (Chief Engineer): Awarded after completion of an additional 12 months of service as Second Engineer (or Chief Engineer in ships under 3000 kW). The credential entitles the holder to act as Chief Engineer on ships with 3000 kW propulsion power or more.

Bevis (Certificate): Awarded as certificate of competency in certain technical fields (Boiler Attendant, Refrigerating Plant Attendant, Electrician's authorization for design, installation, and repair of all types of electric power plants and installations). Requires Maritime Engineer's entire 3-year course, plus relevant experience at sea and/or on shore.

Export Technicians (Eksporttekniker) take a 4-year course of study in *tekniske skoler* in København, Odense, Esbjerg, Køge, Sønderborg, and den Jydske Haandværkerskole. Admission is based on completion of the upper secondary school examination (*studentereksamen*), the upper secondary commercial examination (*Højere handelseksamen/HHX*), the upper secondary technical examination (*Højere tekniske eksamen/HTX*), or appropriate HF examinations. The program consists of 8-semester modules and includes theoretical and practical studies. Subjects include language, market research, workplace economy, transportation economy, and export law. The practicums make up approximately half of the 4-year program and are supervised by the schools.

There is also an engineering and business program called "Export Engineer" (*Eksportingeniør*) taught at the engineering colleges (*Teknika*). This program is described in detail in the Engineering section of Chapter 6.

Chapter 5

Higher Education

Overview

Higher education is provided by institutions that are almost entirely publicly established, administered, and funded, and are either universities or other more specialized institutions. The Ministry of Education, until 1993 of Education and Research, has overall responsibility for all tertiary institutions except a small number that fall under the Ministry of Culture. All are financed from the national budget. The Ministry determines general regulations and sets a framework for determining curricula, admissions, degrees, staff, and expulsion of students. Within the Ministry of Education, the Department of Higher Education and Department of Vocational Training are responsible for planning, development, and the formal administration of educational policy. Institutions are autonomous and governed by the faculty and related university structures.

Universities

Five institutions are classified as universities, comprehensive institutions of higher learning with missions tied to teaching and research. In order of founding they are:

- University of Copenhagen (*Københavns Universitet*), 1479
- Aarhus University (*Aarhus Universitet*), 1928
- Odense University (*Odense Universitet*), 1966
- Roskilde University (*Roskilde Universitetscenter*), 1972
- Aalborg University (*Aalborg Universitetscenter*), 1974

Other Tertiary Institutions

Ministry of Education:

- The Technical University of Denmark (*Danmarks Tekniske Universitet*)
- The Engineering Academy of Denmark (*Danmarks Ingeniørakademi*)
- Eight Colleges of Engineering (*Ingeniørhøjskolen* or *Teknikum*) in Copenhagen, Århus,

Odense, Helsingør, Haslev, Horsens, Esbjerg, and Sønderborg

The Royal Danish Veterinary and Agricultural University (*Den Kongelige Veterinær- og Landbohøjskole*)

The Royal Danish School of Pharmacy (*Danmarks Farmaceutiske Højskole*)

The Copenhagen Business School (*Handelshøjskolen i København*)

The Århus Business School (*Handelshøjskolen i Århus*)

The Southern Business School (*Handelshøjskole Syd*)

The Schools of Social Work (*Den sociale Højskole i...*) in Copenhagen, Århus, Esbjerg, and Odense

The Royal Danish School of Educational Studies (*Danmarks Lærerhøjskole*), Copenhagen with branches in Esbjerg, Haderslev, Odense, Skive Vordingborg, Aalborg, and Århus

Sixty Colleges of Education (*Seminarier*)

The Danish School of Journalism (*Danmarks Journalisthøjskole*)

The School of Graphic Design (*Den Grafiske Højskole*)

The Schools of Advanced Training of Social Pedagogues (*Pædagogseminarier*)

Schools for Training of:

- nurses (*Sygeplejerskoler*),
- dieticians (*Ernæringsfysiologerskoler*),
- midwives (*Jordmoderskoler*),
- physiotherapists (*Fysioterapeutskoler*),
- occupational therapists (*Ergoterapeutskoler*),
- and other health professions

Ministry of Cultural Affairs:

The Royal Danish Academy of Music (*Det Kongelige Danske Musikkonservatorium*), Copenhagen

The Jutland Academy of Music (*Det Jyske Musikkonservatorium*), Århus

The West Jutland Academy of Music (*Vestjysk*

- Musikkonservatorium), Esbjerg
- The North Jutland Academy of Music
(*Nordjysk Musikkonservatorium*), Aalborg
- The Funen Academy of Music (*Det Fynske Musikkonservatorium*), Odense
- The Royal Danish Academy of Fine Arts (*Det Kongelige Danske Kunstakademi*), Copenhagen with three schools: Architecture (*Kunstakademiets Arkitektskole*), Visual Arts and Sculpture (*Kunstakademiets Billedkunstskole*), and Conservation (*Kunstakademiets Konservatorskole*)
- The School of Architecture (*Arkitektskolen i Århus*), Århus
- The Royal Danish School of Librarianship (*Danmarks Biblioteksskole*), Copenhagen with a branch in Aalborg

In the Danish system, many of the very specialized tertiary institutions are also traditionally involved with both teaching and research.

All education in Denmark is free; tuition is charged only in a very few private institutions, where approximately 15% of costs are paid by students (the other 85% by government). Students receive state financial grants to support themselves while they are fulltime students, and in an informal sense this financial aid is considered a student wage. In 1992 the average student grant was approximately \$6,000 per year. In some cases, where employment (e.g., internships, apprenticeships) is included in the course of study or training, the stipends are adjusted according to the wage earned. The grant awarded to students in educational programs is the *Statens Uddannelsesstøtte*, commonly referred to as "SU." In most cases students receive support from SU based on the official length of the educational programs they are pursuing and it is accounted for on a monthly basis. Students who drop out of school or are engaged in a paid period of practical training may carry over the months in which they did not use their stipend so long as they are fulltime students in good standing. Loans and grants depend on the salary level of the parents and whether or not the student is living at home during the course of study. Committees within the institutions of higher education assist in the allocation of funds and certification of student status. Danish students may take their SU overseas for up to 3 years of study if the foreign credits are accepted by a Danish university, enabling many Danish students to study abroad.

While the Ministry of Education gives institutions considerable direction, the institutions have a great deal of autonomy. Each institution reports to its own board of directors, and professors, students, and staff are represented on the governing boards.

The chief administrator in the institutions of higher education is termed the "rector," who represents the institution externally and is responsible for daily administration. Rectors are elected from among the faculty, for 3- to 4-year terms. The Senate (*Konsistorium*) is an institution's highest collegiate body. A staff/student departmental committee, established for each major field of study, is responsible for curricula, teaching, and examinations. The Danish Conference of Rectors (*Rektorkollegiet*), a group consisting of the heads of all institutions of higher education that have research programs, provides a forum for cooperation between universities and other institutions of higher education.

All higher education institutions obtain recognition through the national Ministries of Education or Culture, with degree granting authority coming from the Parliament. All institutions and degree programs that receive public funding are recognized. All certificates, diplomas, and degrees are defined by law and contain similar though not identical course content and goals, regardless of the institution granting the academic award.

Degree Structure

Until recently (1988), the Danish structure of higher education included *candidatus*, *licentiat*, and *doktorgrad* degrees. The long cycle 6- to 7-year *candidatus* degree was a highly specialized first and final degree pursued by the vast majority of students who were enrolled in university study. The *candidatus* consisted of in-depth coursework in the major field of study and usually in a second field, along with a research thesis in the major field.

The *licentiat* degree, offered at the universities since the late 1970's, required a *candidatus* degree for admission. This research degree was pursued primarily by people who wanted a career in research or promotion in academia. This 2- to 3-year, high-level degree was an individualized research program approved by a university department and supervised by a faculty member, and required a successful defense of thesis.

Doctoral degrees (*dr.med.*, *dr.phil.*, *dr.techn.*, *dr.scient.*, *dr. scient. pol.*, and *dr. theol.*), based on centuries of tradition, were obtained by mature scholars after years of independent study, research, publication (often of multiple works), and public defense of a scholarly thesis. An academic evaluation by specialists in the field was made prior to the conferral of the degree.

In 1988 the Danish government established a short-cycle, 3-year *bachelorgraden*, B.A./B.S. degree in nearly every field of study. Students who complete 3 years of study at degree level in humanities,

theology or social sciences and who have passed the appropriate examinations earn the *B.A.* degree. Students who complete 3 years of study at degree level in the natural sciences or in the health sciences earn the *B.S.* degree.

The *candidatus* has been shortened to a 5-year degree and remains the most common exit point for the majority of Danish students. Between 1988 and 1993, students continued to be admitted to *candidatus* programs rather than to *bachelorgraden* programs, and continued on in the same fields to complete the *candidatus* degree without having to qualify for admission to the *candidatus* degree. The transition was completed by 1993, and students are now admitted first to *bachelorgraden* programs and then must qualify again for admission to *candidatus* programs, based upon their *bachelorgraden* degrees. Students previously enrolled will not be deprived of their right to continue directly into a *candidatus* program, hence the formation of a two-tiered system. A few programs, such as medicine, dentistry, and theology, will have no *bachelorgraden* programs.

The *licentiat* was recently eliminated and newly structured *Ph.D.-graden* (Ph.D. degree) programs were introduced that include coursework, teaching, research, a dissertation, and a public defense of the dissertation. A substantial period abroad is encouraged during the academic program. University departments design the programs, which must be reviewed by the Ministry of Education. Since 1992 students have not been admitted to *licentiat* programs. Persons who obtained a *licentiat* in the past may request a certificate from their institution stating that they have a *Ph.D.-grad.* In 1993, the general structure of higher education changed, so that the sequence is now *bachelor*, *candidatus*, *Ph.D.*, and *doktor* degrees.

Basic Degrees

Bachelorgraden

In many institutions *bachelorgraden* (*B.A.*, *B.S.*) programs are in a state of flux (see Document 5.1). The first 3 years of a *candidatus* program is being converted into whole, identifiable, 3-year *bachelorgraden* programs by defining basic studies, majors, and minors, and adding capstone research papers. The basic education component differs widely among institutions. Usually, the general education components are studies in the major field from different academic perspectives. For example, an economics student could study the history of economics or the philosophy of economics as well as economy. The *bachelorgraden* in Denmark, with a few notable exceptions, is an in-depth study of a particular field with some supporting courses. In

most cases, two-thirds or more of the academic program focuses directly on the major field of study. In all cases, the *bachelorgraden* includes a capstone project, usually a substantial research paper in the third year. *Bachelorgraden* programs are articulated with *candidat* programs in the same or closely related fields.

Candidatus

The *candidatus* degree is evolving into a 2-year in-depth, high level program, generally in the same field of study in which students have their *bachelorgraden* degree. *Bachelorgraden* degrees are required for admission to *candidatus* programs. The *candidatus*, like the *bachelorgraden* degree, is in a state of flux. Some are still structured as total 5-year programs, some have evolved into 2-year programs, based on a first 3-year degree (Documents 5.3, 5.4).

In most cases, the total time needed to earn a *candidatus* degree has been shortened by 1 year (from 6 to 5 years), with the *bachelorgraden* degree being awarded after the first 3 years. The *candidatus* always requires a written thesis based on independent research. The *bachelorgraden* with its shortened time frame has forced new pedagogical methodology. Where the students before were largely on their own, they now have compulsory courses and are moved progressively to higher degrees of independent studies. By the end of the program they are capable of producing an independent, in-depth research paper in their own field of study.

Students attend school on a fulltime basis, which was not the common practice when the degree often took at least 6 years or more to complete. Previously most students had to work about 20 hours a week in order to sufficiently fund their living expenses. Government grants to students (*Statens Uddannelsesstøtte/SU*) have been increased so that it is now possible to live on the allowance for the legal duration of the studies, and also to obtain loans during that period. Students in the *bachelor*'s and candidate programs are primarily fulltime, and the programs are designed for fulltime students.

Ph.D.-graden

The new *Ph.D.-graden* programs require a minimum of 3 years of study beyond the *candidatus* (or similar level, e.g., *civilingeniør*) degree, normally required for admission to *Ph.D.* programs. In a few fields of study, such as sciences at the Universities of Aarhus and Odense, it is possible for a student to be admitted to a 4-year *Ph.D.-graden* program before receiving the candidate in science (*cand.scient.*) degree. After a mandatory examination at the end of the first 2 years of *Ph.D.* study, the *cand.scient.* is automatically conferred.

A structured 3-year doctoral program will include at least 6 months of coursework, 6 months of teaching, 6 months of study in a different institution (preferably outside of Denmark), and at least a 2-year research program leading to a dissertation. In many fields, where structured programs have not been developed, doctoral students pursue individualized programs under the supervision of a faculty member. Each institution is required to submit plans for structure programs to the Ministry of Education for review to determine the amount of research requiring support. *Ph.D.* candidates are formally evaluated every 6 months, and if a problem is identified, it must be rectified within a 3-month period, and followed by another evaluation. The *Ph.D.-graden* is not the *dr.phil.* and the diploma uses the *Ph.D.-graden* terminology. At present, primarily through the Danish Research Academy, Denmark is providing substantial financial support for students undertaking *Ph.D.* study. The goal is to develop quality programs in research training and greatly increase the number of doctoral students.

Doktorgraden

Doctoral degrees such as *dr.med.*, *dr.phil.*, *dr.tech.*, *dr.scient.*, *dr.scient.pol.*, and *dr.theol.* have traditionally been obtained by mature researchers after many years (often 10 or more) of independent research, publication, and public defense of a scholarly thesis. An academic evaluation by specialists in the field is made prior to the conferral of the degree. This type of degree will be continued even with the introduction of the new *Ph.D.* In some fields, such as medicine, the structured *Ph.D.-grad.* will be used for upward mobility in hospital positions while a *dr.med.* will be used for furthering research efforts. In some cases an individual might achieve both types of doctoral degrees.

While *bachelorgraden*, *candidatus*, *Ph.D.-graden*, and *Doktorgraden* degrees are awarded in many fields, their structure remains the same. There are a few exceptions in the case of the *candidatus* degrees. The Institutional Profiles denote the actual degrees awarded and the length of those degrees (see Appendix C for listing).

Other University Degrees

Examinatus artium/exam.art. (Humanities Examination): Awarded after the first 2 years of basic studies in the humanities; often the general education building block for the *candidatus/philosophiae* degree.

Examinatus scientiarum/exam.scient. (Science Examination): Awarded after the first 2 years of basic

studies in the natural sciences.

Candidatus/la philosophiae/cand.phil. (Candidate in Philosophy): Awarded after 4 years of a structured university program, or 1 year after a *bachelorgraden*. The academic program concentrates on one major subject area and is the minimum qualification to teach in upper secondary schools in Denmark; offered in many majors within the fields of humanities and social sciences.

Examinatus oeconomiae/exam.oecon. (Economics Examination): Awarded after 2 years of basic studies in the social sciences. A *candidatus* degree in another field is normally the prerequisite for admission to this course of study.

Magister/ra Artium/mag.art. (Master of Humanities): Can be awarded after 6 years of study in the humanities concentrating on a single subject area in great depth.

Magisterkonferens/mag.art. (Master of Humanities): Can be awarded after 6 years of study in the humanities concentrating on a single subject area in great depth.

Professional Education

Business education and engineering education as well as other specialized educational programs have structures that differ from the general university structure, though some elements remain in many of the fields, such as candidate and doctoral degrees. In business education, the first degree is a 3-year diploma, the *Handelsvidenskabelig Afgangseksamen/HA* (often translated in English as the Bachelor of Science in Economics and Business Administration). The *HA* leads to candidate programs in appropriate fields, e.g. *cand.merc.* In engineering education, the first 3-year degrees are the *Teknikumingeniør* and *Akademiingeniør*, followed by 2-year *Civilingeniør* degrees, followed by *Ph.D* and *dr.techn.* degrees.

Diplomas for professional areas are awarded after successful completion of courses varying in length from 3 to 4 years. These are conferred in the fields of public administration, languages, social sciences, social work, nursing, ergo- and physiotherapeutics, and midwifery, as well as in teacher training for all areas except secondary. The diplomas often have generic titles such as diploma, certificate, or leaving examination, and in some cases they combine a statement of educational level with a professional title. (These are described more fully in Chapters 6 and 7.)

Open Universities

Danish tertiary institutions have organized their continuing education programs and "distance

education" (correspondence) programs into Open Universities, and in some cases, more than one institution has cooperated to form a single open university. For example, Aalborg University and Århus University have joined together to form the Jutland Open University (*Jysk Åbent Universitet*). These open universities replicate on-campus courses, but normally make them part-time instead of fulltime, so people who are working can attend classes. Tuition is charged and, generally, institutional faculty teach the courses. In order to meet special needs, sometimes adjunct faculty are hired. These institutions also offer specially targeted courses in response to community and industry needs.

Diplomas and Practice

The relationship between "diplomas" and "occupational/professional practice" follows a more-or-less common pattern despite the varying sequences and lengths of programs as well as the diverse naming of diplomas according to field and type of institution. The institutions of higher education are the degree-granting bodies in all fields. Professional course requirements are met within the degree programs, and the degrees open the way to careers in nearly all fields. Denmark has no system of professional licensing or of state examinations, though there is often a period of time during which a professional must practice after the awarding of a degree before a professional title can be used. In some cases, such as teacher training, law, and medicine, a second training phase is required after the completion of the degree to qualify for the profession. In teaching, it is the *pædagogikum* period (see Chapter 7). In law, there is a 3-year post-degree period of work required for admission to the bar (see Chapter 6). The Ministry of Education consults with other ministries involved in the various professions to make sure that professional training in higher education is adequate and that appropriate courses are offered that enable graduates to enter careers in corresponding fields.

Academic Year

The academic year in Denmark consists of 2 semesters that run from early September to January, and early February through June. The 32 weeks that make up the teaching year do not include examination periods or vacations. The academic year is uniform in nearly all institutions and no summer sessions are offered.

Language of Instruction

Most courses are taught in Danish in institutions of higher learning, with some notable exceptions. The first 2-year basic studies course (*basis-*

studier) in the Humanities at Roskilde University is taught in Danish, English, French, or German if the student is majoring in those languages, to develop mastery of a foreign language. Some programs are taught entirely in English, as at Aalborg University, which offers a semester on environmental engineering in English.

For some courses, texts are not available in Danish and foreign language textbooks are used. Most commonly used texts in these cases are English or Swedish, although sometimes German and even French are used. As most Danes are proficient in English, when a few native English speakers enroll in a class, the professor will sometimes change the language of instruction to English. (Degrees and special programs offered in English are listed in the institutional profiles later in this chapter.)

Admission

Before 1977 admission to tertiary level institutions was based on results from one of the following Danish examinations:

1. Upper Secondary School Leaving Examination (*Studentereksamen*)
2. Higher Preparatory Examination (*Højere forberedelseksamen/HF*)
3. Higher Commercial Examination (*Højere handelseksamen/HHX*)

In most cases, enrollment was not limited. From 1960 to 1975 enrollment of new students at the tertiary level more than doubled (see Table 5.1). In universities and other tertiary institutions, students were admitted to 5- to 7-year *candidatus* programs.

Table 5.1. Admissions to Higher and Further Education (1960-1975)

1960	1965	1970	1975
7,920	11,960	15,280	20,110

Source: Ministry of Education, Economic-Statistical Division.

Parliament passed a law that became effective in 1977 establishing admission quotas for each discipline in tertiary institutions. The quotas take into account predicted trends in future employment, capacity of institutions, and the geographical distribution of institutions and students. A national coordinating admissions office was established with oversight of a complex process that permits students applying for admission to submit a rank-ordered list of up to eight degree programs. Students apply to all tertiary institutions through this centralized admission office. In 1990 the number of admissions corresponded to approximately 40% of the age cohort. From 1975 to 1990, the number

of available places for students increased substantially (see Table 5.2).

Table 5.2. Admission to Higher and Further Education (1975-1990)

1975	1980	1985	1988	1990
20,110	17,476	25,325	25,843	34,700

Source: Ministry of Education, Economic-Statistical Division.

A restricted admission system (*numerus clausus*) was put into place for those fields of study attracting too many student applications, and institutions often call for additional qualifications on top of required examinations. They may, for instance, require a certain distribution of subjects studied or exams at specific levels, not simply exams in specific fields of study. A more specific admission system will go into effect for all institutions beginning in 1995.

For universities, the admission system was originally set up to admit students to 5- to 7-year *candidatus* programs. As of fall 1993, most students were being admitted to 3- or 3.5-year *bachelorgraden* programs. By 1995 students in most disciplines will be admitted to *bachelorgraden* programs, and will have to qualify again for candidate places on the basis of their performance in the *bachelorgraden* programs. Also, by 1995 universities will require a specific level of marks in relevant subjects. The required levels and marks can be achieved during the student's secondary program, or through single course programs and examinations after completion of secondary school.

The number of vacant places is determined by the Ministry of Education each year after consultation with the institutions. Two quotas are established for each field of study at each institution. "Quota One" places are allocated to students who have one of the secondary school leaving examinations: *Studentereksamen*; *Højere forberedelseseksamen/HF*; *Højere Handelseksamen/HHX*; or *Højere tekniskeksamen/HTX* (which was developed in 1982). An applicant's year of graduation does not matter. Places are awarded according to a ranked scale of examination grade averages. "Quota One" status is determined by the number of vacant places, the number of applicants for these places, and the applicants' grade point averages. An official government information booklet contains a national application form, and specifies the lowest average grade from the secondary school leaving examination that will guarantee admission to a given course of study. If a minimum average grade is a condition for admission, it is specified (grade averages for fields that have restricted admission are noted in the institutional profiles in this chapter).

"Quota Two" was developed to give more flexibility to the system and to give institutions more variables to consider than simply the average marks of the students on their examinations. Vacant places in "Quota Two" are allotted to four groups of applicants:

1. those who have a secondary school leaving examination and who, in addition, fulfill the criteria established by the university for each course of study (for example, a certain mark in mathematics, as well as the general required average of examination marks)
2. those who have completed at least a 3-year degree at another institution of higher education
3. those with either foreign secondary school leaving examinations or certificates that are considered equivalent to Danish secondary school leaving examinations; or other tertiary level education abroad
4. those who do not have any of the above qualifications, but who have special interests, experience from work abroad, or other indication of interest in the field.

In some fields, related previous experience is given a higher rank for consideration for entrance than are examination results. In the universities, examination marks are still weighed very heavily.

Admission to a vacant place in a course of study is offered to applicants based on their ranking. They must accept or decline the offer by a certain date so that all the places in the institutions are filled. When students submit the application, they may also request a stand-by place. If a vacancy occurs before a certain deadline date in August, the place is allotted to the highest ranking applicant on the waiting list. If no place becomes available, the stand-by place on the waiting list can be converted to a promise of admission for the following year.

By 1995 institutions will determine their own admission criteria and also more or less the number of vacant places, except for such studies as medicine, in order to decentralize the tertiary system and allow individual institutions more authority and responsibility. The centralized admission application process is considered a success and will continue.

Grading

Marks are given on a uniform 13-point scale, with 13 being the highest mark and 00 being the lowest. It is actually, however, only a 10-point scale, since there are no marks of 12, 4, or 2. There are few deviations from the scale. The mark of 13 is given only for elegant solutions, or creative, origi-

nal theories and papers. Simply having the correct answers will not give a student a grade of 13, except at the Technical University of Denmark, where all of the grading scale is used and a totally correct answer is graded with a 13. The lowest passing mark on the scale is 6. As long as students average a grade of 6 or above, a grade of 5 is acceptable. A grade of 3 or 0 is always a failure. Some institutions require that all marks be grade 6 or above in order to successfully complete the program.

There are also marks of passed (*godkendt*), failed (*ikke godkendt*), passed (*bestdet*), or failed (*ikke bestdet*). The two scales are often used together and will be so indicated on the transcripts. The official Danish interpretation of the grading scale follows:

13
11 Very good
10

9
8 Good
7

6

5 Less Satisfactory
3
0

At institutions of higher education, either a total average grade of 6 or, in other cases, a grade of at least 6 in each subject is required for passing. The above official Ministry of Education grading scale has been in effect since 1971. Marks represent student achievement in terms of standards set by the institution in question. (See Chapter 10 for the authors' suggested U.S. equivalents.)

Transcripts

Transcripts are available in Danish with an English translation from every institution. In cases where an English translation is not presented, one can be obtained. An explanation of the grading system appears on each transcript. The English translation will contain all the information in the original, although not necessarily in the same order. An English synopsis of descriptive material on the Danish transcript often appears on a cover sheet for the marks, and is usually a literal translation of the Danish.

All residents in Denmark are given a personal registration number, known as a "CPR," for administrative purposes. The CPR contains 10 digits, the first 6 of which indicate the date of birth (day/month/year), and the last 4 are control numbers. The last part is even for women and odd for men.

The CPR is always on transcripts and examination results, and should be consistent on all documents.

Faculty Titles

Fulltime and part-time teachers conduct the classes and research. Faculty are also expected to serve on committees and help govern the institutions. A fulltime faculty member is expected to devote time to teaching, research, and committee work. A typical faculty workload would devote 50% to teaching, 40% to research, and 10% to committee work.

Faculty titles:

- Professor*- fulltime, appointed by the Ministry of Education, the highest academic position
- Docent*- fulltime, tenured faculty member*
- Lektor*- fulltime, tenured faculty member*
- Adjunkt* - 4-year appointments for teaching and research
- Kandidatstipendiat*- Research Associate, or Research Fellow
- Videnskabelig medarbejder*- Scientific Associate
- Gæsteforsker*- Visiting Professor
- Ekstern lektor*- External Lecturer, part-time
- Undervisningsassistent* - Instructor, not a student
- Instruktor*- Student Teaching Assistant
- Amanuensis*- Assistant Lecturer, hired on a one-time basis only

(*In Denmark, these titles are translated as "Associate Professor" or "Senior Lecturer.")

Facilities

The libraries, laboratories, and other facilities at Danish universities are modern and well equipped. In addition to departmental libraries, each comprehensive university has central library facilities supported by the Ministry of Culture and the Ministry of Education, that are open to the public. Some of the institutions actually house national archival materials, as noted in the institutional profiles.

Computer and scientific laboratories are well funded. For instance, the Journalism School (*Danmarks Journalisthøjskole*) has state-of-the-art computer facilities for print and photographic media which are connected directly to one of Denmark's largest newspapers. The newspaper feeds its press service wire directly into the school so that the students are able to work with "live" news. Laboratories in engineering schools are also well equipped, as are laboratories in the Technical University of Denmark. Denmark's reputation for making available excellently crafted high tech equipment is evident in tertiary institutions from libraries to computer labs and veterinary operating rooms.

The Danish Research Academy

The Danish Research Academy (*Forskerakademiet*) was established by Parliament in 1987, and is responsible for the stimulation and coordination of Ph.D. programs and research in higher education institutions. The Academy not only supplies substantial fellowship support, but also concerns itself with the quality of the programs. All programs must have an international dimension, and many Danish students spend one or more semesters of their doctoral programs abroad. One-quarter of all Danish doctoral students abroad are supported by Danish Research Academy fellowships. Students who are selected for a Fulbright scholarship generally receive a Danish Research Academy fellowship.

The Academy also supports and stimulates the further education of scholars in collaboration with universities, applied research institutions, and private enterprise. Publicly financed university research constitutes approximately 45% of all research carried out in Denmark. Each faculty member in the universities has research and teaching responsibilities, and time is allocated to both functions.

Institutional Profiles

Aalborg Universitetscenter/AUC (Aalborg University Center), P.O. Box 159, Langagervej 2, DK-9100 Aalborg, Denmark Phone: +45 98 15 85 22, Fax: +45 98 15 22 01

Est. 1974 as fifth university in Denmark, combining *Den Sociale Højskole i Aalborg*, *Aalborg Teknikum*, *Danmarks Ingeniørakademi i Aalborg*, and the *Handelshøjskolen i Aalborg*. New model of study programs established at AUC is interdisciplinary, problem centered, and project oriented. After common first semester or year in one of three faculties, students identify majors, work in groups on different problems with faculty supervision. Projects account for 50% of work, coursework the remaining 50%.

- **Academic Staff:** (equivalent of) 1,200 full-time
- **Enrollment:** (1992) 9,500. Humanities: 2,300, Social Sciences: 3,980, Technology and Science: 3,300.
- **Admission:** In 1992, unrestricted admissions to Faculty of Technology and Science. In Humanities and Social Sciences, restricted admissions (*numerus clausus*) applied; range of examination results 8.0 to 8.7. For 1992-1993, 3,914 applied and 1,720 admitted.
- **Organization:** There are three faculties:
 - 1) *Det humanistiske fakultet* (Humanities) with

departments of communication, languages and intercultural studies, and music, music therapy

2) *Det samfundsvidenskabelige fakultet* (Social Sciences) with departments of development and planning, economics, politics and public administration, business studies, and social studies and organization

3) *Det teknisk-naturvidenskabelige fakultet* (Technology and Science) with departments of building technology and structural engineering, civil engineering, energy technology, mechanical engineering, physics, and the Institute of Electronic Systems, which has departments of communication technology, control engineering, image analysis, mathematics and computer sciences, and medical informatics.

- **Grading Practices and Transcripts:** No more than one-third of coursework assessed by the pass/fail method. In order to receive a degree, all exams must be passed. At least one-third is assessed by external examiners. Students may only repeat courses if receive a 5 or lower. Failures and repeats do not show on the formal records. AUC formerly used all Pass/Fail marks. In the early 1990s the grading system is in transition to 13-00 scale (see Document 5.2).

Credentials Awarded: (see sample documents at the end of this chapter)

Korrespondent (Commercial Language Correspondent): 3-year part-time study in Open University (continuing education program, see below), which equals 1.5 years of specialized fulltime study in one language for business assistants; offered in English, French, German, or Spanish. Graduates may continue studies in the *Erhvervsprogligt diplom/ED* program.

Erhvervsproglig Korrespondent (Commercial Language Correspondent): 2.5 years of specialized fulltime study in two languages for business assistants. Offered in English, French, German, or Spanish. Became a 3-year program in 1993.

Erhvervsprogligt Diplom/ED (Commercial Language Diploma): 2 years part-time, which equals 1 year fulltime professional diploma course in one foreign language. Requires previous study at tertiary level, at least the 1.5-year *Erhvervsproglig Korrespondent*. Offered in English, French, German, or Spanish.

Handelsvidenskabelig Diplom/HD (Commercial Science Diploma): 4 years part-time (2 years full-time) study in Open University program. Commercial diploma Part I offered in basic economic disciplines (business economics, commercial law, development economics,

macroeconomics, and statistics). Part II includes 2 further years of part-time study in specialization fields of management accounting, marketing, and organization; originally developed for experienced practitioners. Presently upper secondary school graduates also being admitted. Admission requires upper secondary leaving certificate, or completion of grade 9 plus an apprenticeship of at least 3 years. All applicants must also have passed examinations in accounting/operations economics at the minimum *HH* level, mathematics at the *HHX* level C, English at the *HHX* level B, social studies at *HHX* level C, and Danish at the *HHX* level A.

Bachelorgraden/B.S./B.A. (Bachelor's degree): 1 semester to 1 year of basic studies, plus 2 to 2.5 years in a major subject for a total of 3 years. One semester of basic studies in humanities program; 1 year of basic studies in all other academic programs. Offered in business economics, business law and economics, communication, computer sciences, Danish, economics, English, French, German, humanistic computer sciences (information systems), language and international studies, mathematics, music, music therapy, physics, public administration, social sciences, and surveying. (See Document 5.1 for sample credential.)

Handelsvidenskabelig Afgangseksamen/HA (Commercial Science Diploma): 1 year basic studies, plus 2 years in major subject for total of 3 years. Offered in business economics, business law, and labor market and personnel. A student may receive an *HA* with the average mark of 6.

Akademiingeniør (Academy Engineer): 1 year basic studies, including math, physics, and chemistry, followed by 2.5 years of engineering studies for a total of 3.5 years. Offered in building technology, civil engineering, energy technology, information technology, mechanical engineering, and surveying and planning.

Eksportingeniør (Export Engineer): 1 year basic studies, followed by 2.5 years of study in economics, language, and technology for a total of 3.5 years.

Socialrådgiver (Social Worker): 1 year basic studies, plus 2.5 years in social work education for a total of 3.5 years.

Candidatus/a philosophiae/cand.phil. (Candidate of Philosophy): 1 year beyond the *bachelorgraden* for a total of 4 years, with the final year being in one subject only. Offered in communication, Danish, English, French, German, humanistic computer sciences (information systems), language and European studies,

music, and music therapy (also qualifies for certification as a Musical Therapist with no further experience or exams required; certification issued by the Union of Musical Therapists).

Candidatus/a magisterii/cand. mag. (Candidate in Master's): 2 years beyond the *bachelorgraden* for a total of 5 years in a major and a minor subject. Offered in humanities and social sciences.

Candidatus/a mercaturae/cand.merc. (Candidate of Commerce): 2 years beyond a *Handelsvidenskabelig Afgangseksamen* (Commercial Science Leaving Diploma), for a total of 5 years. Offered in business administration and economics.

Candidatus/a mercaturae et auditoris/cand.merc.aud. (Candidate of Commercial Auditing); **Revisorkandidat** (Candidate of Auditing): 2 years beyond the *Handelsvidenskabelig Afgangseksamen/HA* for a total of 5 years. Offered in business administration and auditing. (Licensed auditor status requires 2 years of practical experience beyond the degree, plus additional examination set by the Auditors Union.)

Candidatus/a mercaturae-juris/cand.merc.-jur. (Candidate of Commercial Law): 2 years beyond the *HA* for a total of 5 years, in business law.

Candidatus/a oeconomices/cand.oecon. (Candidate of Economics): 2 years beyond the *HA* for a total of 5 years. Offered in economics; previously called the *Kandidat i samfundvidenskab* (Candidate in Social Sciences), discontinued in 1989.

Candidatus/a scientiarum administrationis/cand. scient.-adm. (Candidate of Administrative Sciences): 2 years beyond the *HA* for a total of 5 years. Offered in public administration.

Candidatus/a scientiarum/cand.scient. (Candidate in Science): 2 years beyond the *bachelorgraden*, offered in two science subjects for total of 5 years; requires a major and a minor and physics can only be a minor.

Candidatus/a geometriae (Candidate in Geodesy); **Landinspektør** (Land Inspector): 5-year program in geodesy, land management, and surveying and planning. Leads to Chartered Surveyor; no further experience or examination required to practice.

Civilingeniør (Civilian Engineer): Diploma will say *Civilingeniør* plus the speciality, followed by *candidatus/a polytechnices/cand.polyt.*; 1.5 years beyond the *Akademiingeniør* for a total of 5 years. Offered in biotechnology, communication technology, computer engineering, control engineering, energy technology, environmental engineering, fisheries technology, indoor envi-

ronmental engineering, industrial production and management, international technological planning, international technological management, machine design, medical informatics and image analysis, optical engineering, planning, and structural engineering.

Licentiat /Lic. (Licentiate): Advanced research beyond the *candidatus/a* degrees. Candidate degree normally required for admission, being replaced by structured Ph.D. program.

Ph.D.-graden (Ph.D. degree): 3 years beyond *candidatus* degrees offered in individualized or structured programs requiring coursework, teaching, dissertation and defense.

Dr.phil., dr.scient., dr. techn. (Doctor of Philosophy, Doctor of Science, Doctor of Technology): Awarded after academic evaluation by specialists and public defense of a scholarly dissertation, often the result of many years of independent research in the subject.

- **Special Programs:** Jutland Open University (*Jysk Åbent Universitet*) in conjunction with Århus University, delivers part-time and continuing education is the outreach program for both universities, but diplomas come from each university individually. Students meet on campus twice each semester and are in contact with each other through the use of computers. Distance learning centers offer AUC programs off-site by regular AUC campus professors. Other programs are taught as part-time (evening) studies on campus.

- **Internationalization:** In 1993-1994 the following international programs were taught in English at AUC at various levels:

a. Communication, Culture and Media: survey and critical discussion of major approaches to media and cultural studies, 1 semester, September-January. Program admission requires 2 to 3 years of humanities undergraduate study.

b. Environmental Engineering: teaching and research in chemistry, biology, and hydraulics as solution to environmental engineering problems. Three consecutive modules with the possibilities of choosing from 1 to 4 semesters; begins in September. Admission requires completion of 3 years of undergraduate study in civil or environmental engineering.

c. European Cultural Studies: variety of courses stressing international and cross-cultural studies, including communication and studies of the cultural, political and economic interplay between different European Community states, 1 semester, February-June. Admission requires minimum of 2 years of humanities undergraduate study.

d. European Studies: the structure and process of Western European integration including the institutions of the EC, plus studies of the economic, social, cultural or political aspect of development in contemporary Europe, 1 semester, February-June. Admission requires completion of 3 years of study in social sciences.

e. Management in an International Perspective: introduction to management theory and practice in an open market economy, 3 consecutive 6-week modules with the possibility of building up an individual program of from 1-3 modules. First module starts in September. Admission requires formal training at bachelor level.

f. International Business Administration: second semester of a 2-year M.Sc. program. Focus is on analysis of a company's potential in the world market and ability to transform potential into strategies; 1 semester: February-June. Admission requires at least a 3-year bachelor's degree in general business administration.

g. International Development Studies: international relations and development of various societies and their cultural patterns, 1 or 2 semesters. First semester is theoretical studies; second is placement in an organization. First semester starts in February. Admission requires 3 years of study in social sciences.

h. Sociological Analysis: theory and analysis of issues in a modern Scandinavian welfare state in transition; 1 semester: February-June. Admission requires 2 to 3 years of undergraduate study plus knowledge of the philosophy and methodology of social science equivalent to second year level.

- **Research:** 13 Departments or Institutes conducting research: Building Technology and Structural Engineering, Civil Engineering, Communications, Development & Planning, Economics, Politics & Public Administration, Electronic Systems (including Communication Technology, Control Engineering, Mathematics and Computer Sciences, Medical Informatics, and Image Analysis), Energy Technology, Languages & Intercultural Studies, Mechanical Engineering, Music and Music Technology, Physics, Production, and Social Studies and Organization. The North Jutland Science Park (NOVI) was initiated in 1989 as industrial research park that supports joint research between industry and researchers from AUC.

Aarhus Universitet (Aarhus University), Ndr. Ringgade 1, DK-8000 Århus C, Denmark. Phone: +45 89 42 11 66, Fax: +45 86 19 70 29

- Est. 1928. Acquired present status in 1970.
- **Staff:** (1992) 4,300 equiv. to 2,700 fulltime (1,500 academic and 1,200 non-academic)
- **Enrollment:** (1993-94) Approximately 17,000.
- Admission:** Restricted admissions (*Numerus clausus*) required in many fields. During 1992, the following minimum secondary school leaving examination (*Studentereksamen*) results were required: Medicine, 10.0; Biology, 9.2; Modern Languages and History, 9.3; Music, 9.5; Law, 9.0; Political Science, 9.5; and Psychology, 9.8. In 1992, 9,283 students applied and 2,939 were admitted.
- **Organization:** There are five faculties:
 - 1) *Humaniora* (Humanities [Arts]): Twenty-five modern languages including Danish and Nordic languages and literature, and Greek and Latin, classical archeology, classical philology, drama, ethnography, history, history of art, history of ideas, history of literature, information sciences, linguistics, medieval archeology, music, philosophy, and pre-historic archeology. Seven research and development units: Center for Feminine Research and Gender Studies, Center for Cultural Research, Center for Human Ecology, Center for Latin American Studies, Center for North Atlantic Studies, Area Study of East Asia, and Area Study for Aesthetic Cultural Work.
 - 2) *Naturvidenskab* (Natural Sciences): Six departments for research and teaching: biology (including botany, ecology, genetics, zoology, microbiology, and zoo-physiology), chemistry, geology, mathematics (including computer science), molecular biology, physics, and astronomy. Institutes: History of Science and Synchrotron Radiation. Special research and development units: Center for Plant Biotechnology, Protein Engineering Research Center, Center for Microbial Ecology, Center for Biotechnological Drug Research, Center for Surface Reactions.
 - 3) *Samfundsvidenskab* (Social Sciences): Economics, law, political science, psychology. Research and development units: Center for Labor Market Economics (run jointly with the Århus Business School); Center for Alcohol and Narcotics; Center for Gerontopsychology; Center for Welfare and Crisis Studies; Center for Psychoendocrinology; and Euro Faculty Center, Aarhus.
 - 4) *Sundhedsvidenskab* (Health Sciences): Dentistry and medicine. The Royal College of Dentistry and the Medical Department of Århus University merged in 1992 to form the Health Sciences Faculty. Departments: gen-

eral medicine, biology, biophysics, cell biology, dentistry, epidemiology, environmental and industrial medicine, forensic medicine; Center for Human Genome Research, Biomembrane Research Center, human genetics, medical biochemistry, medical microbiology, pharmacology, physiology, and social medicine physiology; social medicine, pharmacology, and physiology; clinical studies are carried out in hospitals.

5) *Teologi* (Theology): religious studies, Semite philology, and theology. Archive for New Religious Movements, Grundtvig Center, Center for Bioethics, Archive for Church Sociology, and Church Law.

Credentials Awarded:

Examinatus/a artium/exam.art. (Examination in Humanities): 2 years of fulltime study in political science and humanities; normally combined with the *cand.phil.* degree from another academic department, stepping stone toward further degree, will not be awarded after 1994 when *bachelorgraden* will be the shortest university degree.

Bachelorgraden (Bachelor's degree): Awarded after 3 years of fulltime study.

Candidatus/a philosophiae/cand.phil. (Candidate in Philosophy): Awarded after 4 years of fulltime study, which may include the bachelor's degree. Program includes one major subject, is minimum qualification to teach in the upper secondary school, offered in humanities and social sciences.

Candidatus/a magisterii/cand.mag. (Candidate of Master's): Awarded after 5 years of fulltime study, may include bachelor's degree, includes major and minor subject. Offered in humanities.

Candidatus/a juris/cand.jur. (Candidate in Law): Awarded after 5 years of fulltime study, which may include the bachelor's degree. Practicing attorney requires 3 additional years of practice, no additional exam.

Candidatus/a odontologiae/cand.odont. (Candidate in Dentistry): A 5-year program leading to the first degree in dentistry.

Candidatus/a oeconomices/cand.oecon. (Candidate in Economics): Awarded after 5 years of fulltime study, which may include the bachelor's degree.

Candidatus/a scientiarum politicarum/cand.scient.pol. (Candidate in Political Science): awarded after 5 years of fulltime study, may include the bachelor's degree.

Candidatus/a psychologiae/cand.psych. (Candidate in Psychology): Awarded after 5 years of fulltime study, may include the bachelor's degree.

Practicing clinical psychologist requires 2 additional years of practice plus additional coursework.

Candidatus/a scientiarum/cand.scient. (Candidate in Science): Awarded after 5 years of fulltime study in a science, which may include the bachelor's degree; also awarded to doctoral students who pass the Ph.D. qualifying exam at end of sixth year.

Candidatus/a theologiae/cand.theol. (Candidate in Theology): Awarded after 5 years of fulltime study, may include bachelor's degree. This degree combined with a course at the Pastoral Seminary entitles graduates to apply to enter the ministry in the Danish Evangelical Lutheran Church.

Magister/ltra artium/mag.art. (Master of Art): Awarded after 6 years of study in the humanities with in-depth study in a single subject, may include the bachelor's degree (may not be offered in the future).

Candidatus/a medicinae/cand.med. (Candidate in Medicine): Awarded after 6.5 years leading to the first professional degree in medicine.

Diploma in Medical Research: A 1 year research program, under supervision of a faculty member, to encourage medical students to become involved in research. Available only to medical students who have finished the basic sciences training (i.e., for students in the second half of the medical program).

Licentiat/lic., Licentiat scientiarum/lic.scient. (Licentiate in Science): Advanced degree awarded upon completion of an independent project. *Candidatus* degrees normally required for admission. Since 1988 no students have been admitted to this program.

Ph.D.-graden (Ph.D. degree): 3 years of study beyond the *candidatus*. Can be done as an individualized research program or as a structured program. In the fields of natural science, students are admitted to Ph.D. study without receiving *cand.scient.* if they successfully pass the examinations at the end of the first 2 years of doctoral study, *cand.scient.* is automatically awarded; is 1 year more than the standard course of study for the *cand.scient.*

Dr.phil., dr.scient., dr.scient.pol., dr.oecon., dr.jur., dr.med., dr.theol. (Doctor of Philosophy, Doctor of Science, Doctor of Political Science, Doctor of Economics, Doctor of Law, Doctor of Medicine, Doctor of Theology): Awarded after academic evaluation by specialists and the public defense of a scholarly thesis, which is often a result of many years of independent research.

• Special Programs:

1. Master of Public Health: 1- or 2-year program, depending on student's academic background, intended for public health managers and researchers. Degree awarded by Nordic School of Public Health, Sweden. Program demands good command of written and spoken English. Performance at high level will be awarded "With Distinction."

2. Open University: In cooperation with Aalborg University, Århus University administers programs in the Jutland Open University (*Jysk Åbent Universitet*), primarily continuing education and professional with some courses in response to community demand. Courses taught correspond closely to those taught at universities. They are taught on a part-time basis to allow students to work and study at the same time, and alternate between intensive weekend seminars and periods of private studies. University faculty teach in the Jutland Open University.

3. Gender, Communication, and Culture: A 1-year program on cultural expression of gender on a theoretical, analytical, and practical level. Minimum admission requirement is initial 2 years of introductory study in university. Program can stand alone or be part of a 5-year *cand.mag.* program.

4. *Examinatus oeconomicus/exam.oecon.* (Examination [or Diploma] in Economics): A 4-semester course for students who already have a *candidatus* in another area. Program concentrates on economics. Topics include economics, financial accounting, management accounting, management organization, electronic data processing, introductory statistics, marketing management, budgeting, organization theory or introductory finance/ investment planning, and strategic management or product market strategy.

5. A science park has been created by Århus University to encourage research with industry.

København's Universitet/KU (University of Copenhagen), P.O. Box 2177, Nørregade 10, DK-1017, København K, Denmark. Phone: +45 35 32 26 26, Fax: +45 35 32 26 28

Est. 1479, reorganized in 1537. Faculty of Law reorganized in 1848 as Faculty of Law and Science. The Faculty of Science was created in 1850 by separation from the Faculty of Philosophy. The first woman student was admitted in 1877.

• **Staff:** Approximately 6,000 (equiv. to 4,000 fulltime), evenly divided academic/nonacademic

- **Enrollment:** (1992) 30,500 fulltime/4,000 part-time
- **Admission:** Restricted admissions (*Numerus clausus*) in many fields. During 1992, the following secondary school examination averages guaranteed admission to the following fields: Computer Sciences, 8.1; Mathematics/Economics, 8.5; Geography, 8.6; Geology, 8.1; Humanities, 9.2; Psychology, 9.8; Law, 9.2; Statistics/Social Sciences, 9.6; Economics, 8.7; Theology, 8.4. There are secondary course distribution requirements in addition to required marks in some subjects. In 1991, 16,879 applicants applied; 4,445 were admitted.
- **Organization:** There are six faculties:
 - 1) *Humaniora* (Humanities): Departments of archaeology, classical languages, cultural history, Danish, European languages, fine arts, history, Oriental languages and Near Eastern archaeology, philology, philosophy, psychology, education, and Scandinavian studies. Faculty maintains museums and archives: the Arnamaganean Collection of Old Norse-Icelandic manuscripts and the Danish Dialect Archives.
 - 2) *Jura* (Law): Established in January 1993. Separated from the Faculty of Social Sciences.
 - 3) *Naturvidenskab* (Natural Sciences): Departments of actuarial mathematics, animal physiology, astronomy, botany, chemistry, computer sciences, geology and geography, geophysics, math, molecular biology, physics, physical education, and statistics. Faculty maintains museums and archives for the Zoological, Geological and Botanical Museums and a botanical garden.
 - 4) *Samfundsvidenskab* (Social Sciences): Departments of anthropology, economics, political science, and sociology.
 - 5) *Sundhedsvidenskab* (Health Sciences): Departments of dentistry, human biology, and medicine. Faculty maintains the Museum of Medical History and the unique Collection of Anatomical Specimens.
 - 6) *Teologi* (Theology): Faculty maintains the Søren Kierkegaard Collection.

Credentials Awarded:

- Examinatus/a artium/exam.art.* (Examination in Humanities): Awarded after 2 years of fulltime study in political science and humanities. Normally combined with the *cand.phil.* from another academic department.
- Examinatus/a scientiarum/exam.scient.* (Examination in Science): Awarded after 2-3 years of fulltime study in the natural sciences.

Bachelorgraden [B.A./B.S. (Bachelor of Arts, Bachelor of Science): Awarded after 3 years of fulltime study.

Candidatus/a philosophiae/cand.phil. (Candidate of Philosophy): Awarded after 4 years of fulltime study in social studies and humanities, which may include a bachelor's degree. Program includes study of one major subject, is the minimum qualification to teach in upper secondary schools.

Candidatus/a actuarii/cand.act. (Candidate in Actuarial Science): Awarded after 5.5 years of study.

Candidatus/a scientiarum politicarum/cand.scient.pol. (Candidate in Political Science): Awarded after 5 years of fulltime study, which may include a bachelor's degree. After 3 years of special studies within the program, students may acquire a qualification to teach in upper secondary schools.

Candidatus/a magisterii/cand.mag. (Candidate of Master's): Awarded after 5 years of fulltime study in a major and minor (field), may include a bachelor's degree. Offered in the humanities, is a qualification to teach in upper secondary schools.

Candidatus/a theologiae/cand.theol. (Candidate in Theology): Awarded after 5 years of fulltime study, which could include a bachelor's degree after the first 3 years until 1994, after that, no *bachelorgraden* degree in theology. This is a required qualification to become a minister in the *Den danske Folkekirke* (Danish Peoples' Church).

Candidatus/a juris/cand.jur. (Candidate in Law): Awarded after 5 years of fulltime study, which may include a bachelor's degree after the first 3 years.

Candidatus/a administrationis politicae/cand.adm.pol. (Candidate in Political Administration): Awarded after 5 years of fulltime study.

Candidatus/a politicarum/cand.polit. (Candidate in Economics): Awarded after 5 years of fulltime study in economics with emphasis on macroeconomics, may include bachelor's degree after the first 3 years.

Candidatus/a psychologiae/cand. psych. (Candidate in Psychology): Awarded after 5 years of fulltime study, may include bachelor's degree after the first 3 years.

Candidatus/a oeconomices/cand.oecon. (Candidate in Economics): Awarded after 5 years of fulltime study in economics with emphasis on microeconomics, may include bachelor's degree after the first 3 years.

Candidatus/a scientiarum socialium/cand.scient.soc. (Candidate in Social Sciences): Awarded after

5 years of fulltime study in the field of anthropology, may include a bachelor's degree after the first 3 years.

Candidatus/a scientiarum/cand.scient. (Candidate in Science): Awarded after 5 years of fulltime study in science, may include bachelor's degree after the first 3 years.

Candidatus/a odontologiae/cand.odont. (Candidate in Dentistry): Awarded after 5 years of fulltime study. First professional degree in the field. Bachelor's degree may be awarded after the first 3 years.

Candidatus/a medicinae/cand.med. (Candidate in Medicine): Awarded after 6.5 years of fulltime study and practice leading to first professional degree in medicine. Bachelor's degree could be awarded after first 3 years until 1994, after which no bachelor degrees awarded in medicine.

Magister/tra artium/mag.art. (Master in Humanities): Awarded after the completion of a 2-year core course plus 4-year advanced course for total of 6 years. Danes call this the *Magisterkonferens* degree.

Licentiat/lic., Licentiat scientiarum/lic.scient. (Licentiate in Science): Advanced degree awarded upon completion of an independent project. A Candidate degree is required for admission.

Ph.D.-graden (Ph.D.degree): At least 3 years of study beyond the *candidatus*. Could be done as an individualized research course until 1993, but has changed to a structured program requiring coursework, teaching, a dissertation, and defense.

Dr.phil., dr.scient., dr.scient.pol., dr.med., dr.odont., dr.theol. (Doctor of philosophy, Doctor of Science, Doctor of Political Science, Doctor of Medicine, Doctor of Odontology, Doctor of Theology): Awarded after academic evaluation by specialists and public defense of scholarly thesis, often the result of many years of independent research.

• **Special Programs:**

1. Two extension services are operated by *KU: Studieskolen* (Study School), which provides courses in 5 basic sciences and 38 languages for adults, and the *Folkeuniversitetet* (People's University), offers lecture courses, special courses, and other programs at the university level.

2. A limited but increasing number of regular university courses are offered in English. These courses are open to all students, both Danish and foreign, and enable non-Danish-speaking students to do academic work while giving Danish students a chance to practice

and improve their English. Every semester 60 to 75 courses within various fields are taught in English, some as part of a full study program for 1 or 2 semesters. A 3-credit core course, "Danish Culture and Society, Introduction to Politics, Literature, and Art," is offered for foreign students.

3. An intensive 8-week summer language course is offered from mid-June to the end of August. The Intensive Language Program (ILP) begins with a 10-day language camp before the students are transferred to Copenhagen for instruction at the University, for a total of 180 contact teaching hours.

4. There is also an intensive 3-week language program taught just before the beginning of each semester, in August and again in January. During the academic year, Danish is taught in the Institute of Nordic Philology and advice is given as to which are appropriate level courses for students to take at the *Studieskolen* specializing in foreign and second language teaching.

Samples of other special courses and programs taught in 1993-1994 in English are:

a. Cross and Culture: A 1-semester program offered every other fall semester (next 1996) includes courses on The Theology of the Cross and the Mission of the Church, The History and Theology of the Danish Church with Special Reference to the Contribution made by N.F.S. Grundtvig seen in an International Perspective, Cross versus Culture, and European and Third World Biblical Studies.

b. A two-semester Law program is offered each year, beginning in the fall semester with courses such as Advanced Corporate Law, Comparative Commercial Law I and II, European Community Law, International Law of the Sea, International Criminal Law, Negotiation and Dispute Resolution in Theory and Practice, International Energy Law and the Environment, and International Human Rights Law.

c. Canada: Ethnic Mosaic and Global Village, in Faculty of Social Sciences.

d. Eastern Europe: Society, Politics, Culture, in Faculty of Social Sciences.

e. A 1- or 2-semester program in political science, beginning in the fall of each year with courses such as European Integration and Disintegration, Politics in Scandinavia: A Comparison, Strategic-Relational Theory and the Development of the EC, European Security, and EC as an Administrative and Political System.

f. Periodontology, Prosthodontics, Pediatric Dentistry, Orthodontics, etc. in the Faculty of

Health Sciences at ninth semester level, with theoretical and clinical care courses.

g. Introduction to the European Middle Ages, in Faculty of Humanities.

h. Cross-Cultural Pragmatic, in Faculty of Humanities.

i. Educational Planning and International Education, an intensive comparative education program offered each year during the spring semester in May and June in the Faculty of Humanities.

j. Selected Topics of Relativistic Astrophysics, in the Faculty of Natural Sciences.

k. Molecular Genetics, in the Faculty of Natural Sciences.

l. Urban Challenges: Urban Management and Transport, in the Faculty of Natural Sciences.

m. A 1-semester program in Environmental Technology and Management offered each spring.

n. A 2-semester program in Electrophysics offered each fall including courses in Solid State Physics II, Laser Physics, Manybody Physics I, and Atomic Physics, offered at the Niels Bohr Institute.

• **Research:**

Research centers are associated with either departments, faculties, or the university as a whole and include the following: Center for Brain Damage, Center for Interdisciplinary Studies of Molecular Interaction (CISMI), Center for Language Technology, Center for Peace and Conflict Research, The Computational Neural Network Center, Danish Center for Human Rights, EC Research Center, International Work Group for Indigenous People (IWGIA), Mathematical Center of the European Mathematical Trust, National Biotechnological Research and Development Center, Nordic Institute for Asian Studies (NIAS), Nordic Institute for Theoretical Physics (NORDITA), Nordic Institute for Regional Research (NORDREFO), the Rehabilitation and Research Center for Torture Victims, and the Søren Kierkegaard Center.

The University is a contributor and major partner in the activities of the Copenhagen Science Park, "SYMBION," a joint development center for the business world and the universities in the Copenhagen area.

Odense Universitet (Odense University), Campusvej 55, DK-5230 Odense M., Denmark. Phone: +45 66 15 86 00, Fax: +45 66 15 84 28

Est. 1966.

- **Enrollment:** (1994) 9,976.
- **Staff:** Academic: 400/nonacademic: 353
- **Admission:** Restricted admissions (*numerus clausus*) in certain fields. During 1992, the following examination results were required: Sciences, 7.8; Humanities, 8.7; Business Economics with English, 8.9, with French, 8.1, with Spanish, 8.3, or with Arabic, 8.0; Business Administration, 7.4; Economics, 8.0; Secretarial business with linguistic emphasis, 7.1.
- **Organization:** There are four faculties:
 - 1) *Humaniora* (Humanities [Arts]): Departments of comparative literature, contemporary Middle Eastern studies, English, French, gender and culture, history, languages and linguistics, organizational environments and communication strategies, philosophy, Russian, Scandinavian studies, and Spanish. New initiatives: applied linguistics, art, design, and education, and women's studies.
 - 2) *Samfundsvidenskab* (School of Business and Economics): Departments of marketing, commercial law and political science, management, and economics. In 1992, a joint Humanities and Social Sciences Council was formed, joining the Faculty of Humanities and the Faculty of Social Sciences.
 - 3) *Naturvidenskab* (Natural Sciences): Departments of biochemistry, biology, physics, chemistry, mathematics and computer sciences, and molecular biology.
 - 4) *Sundhedsvidenskabelige* (Health Sciences): Departments of medical biology, preventive medicine and health services, clinical medicine, and physical education.

Credentials Awarded: (see sample documents at the end of this chapter)

Korrespondent (Correspondent): Credential in commercial business languages is awarded after 3 years of study. Offered in English, French, German, and Spanish. (Program combining Spanish, another language requires 3 years.)

Bachelorgraden/B.A. (Bachelor's degree): First degree in humanities and economics, awarded upon completion of 3 years of study: 2 or 3 years of basic studies and, if only 2 years of basic studies, 1 year in a minor subject. Programs offered in Danish/Nordic studies, comparative literature, philosophy, history, Greek and Roman languages and culture, English, German, French, Spanish, and Russian Studies.

Bachelorgraden/B.S. (Bachelor's degree): First degree in sciences, awarded after 3 years of physical education and the sciences.

Handelshøjskolens Afgangseksamen/HA (Business

School Examination): First degree in social sciences. Awarded after 3 years of study in business administration and economics.

Candidatus/a negotiandi/cand.negot. (Candidate in Business & Modern Languages): Awarded after 4 years of study in business administration and modern languages, either in Faculty of Humanities or Faculty of Economics and Business.

Candidatus/a philosophiae/cand.phil. (Candidate in Philosophy): Awarded after 4 years of study in one major subject in Faculty of Humanities.

Candidatus/a magisterii/cand.mag. (Candidate of Masters): Awarded upon completion of 2 additional years of study beyond the *bachelorgraden*, for a total of 5 years, with two major subjects, written thesis based on independent research. (See Document 5.4 for sample degree.)

Candidatus/a mercanturae/cand.merc. (Candidate in Commerce): Awarded upon completion of 5 years of study (2 years beyond the *HA*) in business administration and economics.

Candidatus/a mercanturae et auditoris/cand.merc.aud. (Candidate in Commercial Auditing): Awarded upon completion of 5 years of study (2 years beyond the *HA*) in auditing and business administration.

Candidatus/a oeconomices/cand.oecon. (Candidate in Economics): Awarded upon completion of 5 years of study in economics (2 years beyond the *bachelorgraden*).

Candidatus/a scientiarum/cand.scient. (Candidate in Sciences): Awarded upon completion of 5 years of study in computer technology and science (2 years beyond the *bachelorgraden*).

Candidatus/a scientiarum oeconomices/cand.scient.oecon. (Candidate in Economic Science): Awarded upon completion of 5 years of study in mathematics and business administration (2 years beyond the *bachelorgraden*). (See Document 5.3 for sample degree.)

Candidatus/a rerum socialium/cand.rer.soc. (Candidate in Social Sciences): Awarded upon completion of 5 years of fulltime study in social sciences. Students no longer admitted to this program.

Magister Artium/mag.art. (Master of Arts), *Magister Scientiarum/mag.scient.* (Master of Sciences): Awarded after 1 to 2 years of basic studies and additional 4 years in one subject or group of related subjects.

Candidatus/a medicinae/cand.med. (Candidate of Medicine): Awarded after 6.5 years of study in medicine. First professional degree in the field.

Licentiat/lic. (Licentiate): Higher degree awarded upon completion of an independent project.

Candidate degree is required for admission.

Ph.D.-graden (Ph.D. degree): Minimum of 3 years of research required prior to submission of dissertation, which must be reviewed by a committee of peers. This program may be undertaken on an individualized basis or in a structured program.

Doctor/dr.phil., dr.scient. (Doctor of Philosophy, Doctor of Science): Awarded after academic evaluation by specialists and public defense of a scholarly thesis, often the result of many years of independent research.

• Grading and Transcripts:

Some Odense transcripts will have a column marked *SEM.ANDELE* (Semester Share) next to the *KARAKTER* (Grades) column. Transcripts with this column do not list the courses by semester, but for the total period of time of enrollment. A semester share is a credit system with each semester equated to 1.0 semester share. If a student completes a 5-year degree course, 10 semester shares will be completed. Courses range from .100 to .400 *sem.andele*. For example, a student who has 3 *sem.andele* has completed the equivalent of 3 fulltime semesters.

• Special Programs:

1. Scandinavian Area Studies: Semester program offered each fall by the Faculty of Humanities and Faculty of Economics and Business, consists of independent courses taught in English that provide an introduction to contemporary Scandinavian society and culture, along with the Danish language. Often used by international students who intend to study at Odense.

2. Open University established at Odense University to provide continuing education to the community, and to meet some short-term training needs of industry. Includes the following three programs:

Erhvervsprogligt diplom/ED (Commercial Languages Diploma): Awarded after 3 years of part-time study (1.5 years fulltime) in commercial languages.

Examinatus artium/exam.art. (Examination/Certificate in Humanities): Awarded upon completion of 4 years of part-time (2 years fulltime) basic studies in humanities, and in the field of physical education.

Handelvidenskabelig Diplomeksamen/HD (Commercial Science Diploma Examination): Four years of part-time study (2 years fulltime) in business economics. This program was developed for experienced professionals, and is now attracting students directly

from secondary school or, who have completed an apprenticeship.

3. A Science Park established in Odense in 1989 to encourage research between faculty members and industry. Particular research advances have been made in the areas of robotics and software development.

Research:

Faculty of Humanities: Institutes of History and Western Civilization, Languages and Communication, Literature and Cultural Studies, and Philosophy. Much of the research is focused on Denmark with orientation towards European sphere, coupled in some fields with tendency towards theoretical and methodological research.

Faculty of Economics and Business: Concentrates on a limited number of fields, i.e., Health Service Economics, International Marketing, Organizational Theory, Planning, and Political Sciences.

Faculty of Natural Sciences: Much research is carried out by individual faculty members. An example is the Protein Engineering Research Center. Several projects under the auspices of the Aquatic Biology Laboratory.

Faculty of Health Sciences: Institute for Biological Medicine, including concentrations in Anatomy and Cytology, Microbiological Medicine, Pharmacology and Physiology, and Physical Pharmacology; Institute for Legal Medicine; Institute for Physical Education; Institute for Preventive Diseases and Health Research, including Environmental Medicine, Genetics, General Medicine, and Social Medicine; Institute for Physical Education. Research relates primarily to some of the more common major diseases such as cancer, malfunctions of nervous system, metabolic disorders, and heart disease. There are also a number of research projects aimed at creating the scientific basis for determining the health policy, e.g., in the field of prevention a project on health through sport, and one on environmentally induced diseases.

Roskilde Universitetscenter/RUC (Roskilde University) P.O. Box 260, DK-4000 Roskilde, Denmark. Phone: +45 46 75 77 11. Fax: +45 46 75 74 01.

Est. 1972. to ease pressure on the University of Copenhagen and experiment with a more flexible educational structure suited to the needs of modern job qualifications. Goal to combine general knowledge with specialized expertise based on specific skills and methods for which there was growing demand in the expanding labor market at the time. Study methods are interdisciplinary, problem-oriented, and project-organized group work.

Each begins with a 2-year basic studies program in either natural sciences, social sciences, or humanities. Basic studies program is followed by studies in the major for a *bachelorgraden* (1 year), and then by 2 additional years for the *candidatus*. The basic course in humanities is taught in English, French, or German in addition to Danish. A few higher degree programs are taught in English.

- **Academic Staff:** Approx. 260/190 technical and administrative staff.
- **Enrollment:** (1992) Approximately 5,000.
- **Admissions:** In 1992 students needed the following upper secondary grade point average to be admitted: in Humanities, 9.1, in Social Sciences, 8.9, and in Sciences, 7.4. As of 1993 students were admitted into study for the *bachelorgraden* program only, and have to apply for admission to *candidatus* study at a later point. Previously, students were admitted directly to *candidatus* study.
- **Organization:** There are eight departments: Biology and Chemistry; Studies in Mathematics and Physics and their Functions in Education, Research, and Applications; Geography, Socio-Economic Analysis, and Computer Sciences; Environment, Technology, and Social Studies; History and Social Sciences; Languages and Culture; Educational Research, Media Studies; and Theory of Science, Economics, and Planning.

Credentials Awarded:

Bachelorgraden and Candidatus Structure: After 2 years of basic studies, years 3, 4, and 5 are built on a structure comprising of a total of six modules (three modules each of two optional subjects, e.g., history and mathematics could be a combination). A module is the workload of an average student during one semester.

Bachelorgraden/B.A./B.S. (Bachelor's degree/B.Sc., B.A): Awarded after completion of 3 years of study, a 2-year basic study course, and 1 year of specialized study in one or two major subjects.

Den almen administrativ eksamen i Driftøkonomi/AAE (Degree in General Administration): Awarded after completion of 2 years of social sciences basic studies plus a 1.5-year specialization.

Almen administrativ datalogiuddannelse/AAD (Degree in Administrative Data Processing): Awarded after successful completion of 2 years of basic studies and 2 years of administrative data processing.

Handelsvidenskabelig Afgangseksamen/HA (Commercial Science Leaving Diploma): Awarded after 3.5 years of study in business economics.

Socionom (Social Worker): Awarded after 3.5-year

program in social work. Last class admitted in 1985.

Candidatus/a magisterii/cand.mag. (Candidate of Master's [translated on document as Master of Arts]): Awarded after completion of 2 years of study beyond the *bachelorgraden*. Offered mainly in the fields in the humanities in the following subjects: Danish language and literature, English, French, German, and history.

Candidatus/a scientiarum/cand.scient. (Candidate of Science): Awarded after successful completion of 2 years of study beyond the *bachelorgraden*. Offered mainly in the following subjects: environmental biology, molecular biology, chemistry, mathematics, physics, geography, and computer sciences.

Candidatus/a scientiarum socialium/cand.scient.soc. (Candidate of Social Sciences): Awarded after successful completion of 2 years of study beyond the *bachelorgraden*. Offered mainly in administration, environmental planning, business economics, international development studies, and public managerial economics.

Candidatus/a communicationis/cand.comm. (Candidate of Communications): Awarded after completion of 2 years of study beyond the *bachelorgraden*.

Candidatus/a scientiarum administrationis /cand.scient.adm. (Candidate of Public Administration): Awarded after successful completion of 2 years of study beyond the *bachelorgraden*.

Candidatus/a technices socialium/cand.techn.soc. (Candidate in Technical and Socioeconomic Planning): Awarded after successful completion of 2 years of study beyond the *bachelorgraden*.

Licentiat/lic. (Licentiate): Advanced degree awarded until 1988 upon completion of an independent project. Candidate degree was required for admission.

Ph.D.-graden (Ph.D. degree): 3 years of study beyond *candidatus* degree. Can be individualized research or in a structured program. Structured programs offered in humanities, sciences and social sciences. Two specialized programs in English: Technology Policy, Innovation, and Socioeconomic Development, and International Development. Programs require coursework, teaching, study abroad, independent research, and a thesis.

Doctor/dr. phil., dr. scient., dr.scient.soc., dr.administrationis (Doctor of Philosophy, Doctor of Sci-

ence, Doctor of Social Sciences, Doctor of Administration): Awarded after academic evaluation by specialists and public defense of a scholarly thesis, often the result of many years of independent research.

- **Special Degrees:** Master's in European Social Policy and Analysis is an ERASMUS program begun in 1990; taught in English, 12 months of study, divided into 3 academic terms, 8 weeks per term of intensive formal teaching after 1 week of introduction; 1 week of review and examination follows the 8 week program, offered jointly with three universities in other countries. European Master's Degree in Problems of Society, Technology and Science in Europe is a 2-semester, fulltime, joint study program of 15 European universities, taught in English, run by the Department of Economics and Planning (see Document 9.1)
- **Special Programs:** Open University studies and part-time studies in the humanities, basic studies program, and adult education. Students are resident on the campus during weekends, takes at least 4 years to complete.
- **Research:** Programs in Science and Technology, Comparative Welfare Systems, Political and Cultural Institutions in Development, Adult Education Research, European Cultural Studies, Cognitive Sciences, Environmental Sciences, Materials and Macromolecular Sciences, and European Urban and Regional Planning.

Research is organized along departmental lines. Science research is conducted in the fields of chemistry, biology, mathematics, physics, ecology, environmental geography, and environmental sciences. Humanities research is performed in the fields of linguistics, literature, culture, public relations, communications and media sciences, and history. In the social sciences research is conducted in administration, social sciences and economy, inter-national development studies, public economy, political sciences, social and economic development, industrial economy, urban and industrial geography. Further research is performed at the Center of Advanced Technology, founded in 1989 as a collaboration between the National Laboratory at Risø and Roskilde University.



Aalborg
Universitets
Center

Eksamensbevis

Bachelorgraden B.A.

The Danish Bachelor Degree B.A.

Rektor

Det humanistiske
fakultetskontor

Navn:

Cpr.nr.:

har opnået bachelorgraden inden for det humanistiske område på baggrund af følgende gennemførte studieaktiviteter

	Resultat
Kandidatuddannelsen i Humanistisk Informatik (3 års studier heraf)	
Projektenhed, 1. semester: Humaniora i det moderne samfund (Intern prøve)	Bestået
Humanistisk videnskabsteori (Intern prøve).....	Bestået
Humanistiske analysemetoder (Intern prøve).....	Bestået
Projektenhed, 2. semester: Informationsteknologi og hverdagsliv (Intern prøve)	Bestået
Projektenhed, 3. semester: Direkte menneske-til-menneske-kommunikation (ekstern prøve)	11
Projektenhed, 4. semester: Kommunikation og informationsteknologi: datamatformidlet kommunikation (ekstern prøve)	9
Kommunikationsanalyse og -vurdering (Intern prøve)	8
Projektenhed, 5. semester: Systemudvikling i et humanistisk datalogisk perspektiv (Intern prøve)	Bestået
Projektenhed, 6. semester: Sprog, viden og virkelighed (ekstern prøve)	9
Yderligere gennemført studieaktivitet:	
Projektenhed, 7. semester: Edb-systemer i relation til uddannelse og arbejde (ekstern prøve)	9

Aalborg Universitetscenter
Det humanistiske fakultetsekretariat
Den 17. juli 1992

ODENSE UNIVERSITET

I OVERENSSTEMMELSE MED UNDERVISNINGSMINISTERIETS BEKENDTGØRELSE NR.
405 AF 1/6-1989
ER

K A N D I D A T E K S A M E N I M A T E M A T I K - Ø K O N O M I

BESTÅET AF:

CPR.NUMMER:

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EKSAMENS PROTOKOLLEN.

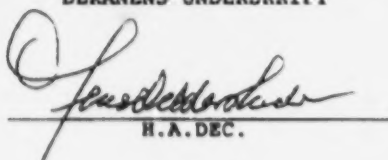
KANDIDATEN HAR HEREFTER RET TIL AT BETEGNE SIG:

CAND. SCIENT. OECON.

KUN GYLDIG I ORIGINAL MED UNIVERSITETETS PRÆGESTEMPEL.

TIL VITTERLIGHED UNDER UNIVERSITETETS SEGL OG
DEKANENS UNDERSKRIFT

ODENSE, DEN
31. AUGUST 1992


H.A. DEC.

ODENSE UNIVERSITET
DET HUMANISTISKE FAKULTET

CAND. MAG.

cpr.nr.: _____

har i overensstemmelse med undervisningsministeriets bekendtgørelse
af 15/5 1985 den 24. september 1992

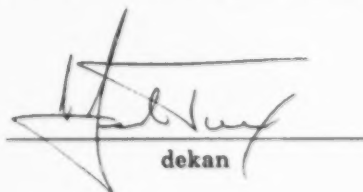
afsluttet universitetseksamen med fagkombinationen:

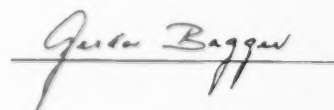
2-årig OVERBYGNINGSUDDANNELSE i HISTORIE

1-årig SUPPLERINGSUDDANNELSE i MELLEMLØST-STUDIER

Uddannelsen giver ret til betegnelsen *Cand. mag.*

Odense Universitet, den 29. september 1992.


dekan



Chapter 6

Specialized Tertiary Education by Field of Study

Many of the fields of study offered in colleges and universities in the United States are offered in specialized institutions in Denmark, and some programs are even incorporated in upper secondary institutions. Entrance requirements to these specialized programs vary widely, but the most common admission criterion is the *Studentereksamen* or other upper secondary school leaving certificate. The most typical nonuniversity types of educational institutions are the higher schools of engineering, business, education, and agriculture. The various types of specialized tertiary education described here are listed according to academic subject. Some of these fields are complex and interwoven with secondary level programs and continuing education programs. The status of the programs vis-à-vis any university or secondary vocational program in the same field is also described.

Due to the nature of the Danish system and Danish degrees and diplomas, it is difficult to determine the lengths and sequences of courses without additional information. To understand the value of a particular Danish credential it is necessary to have some knowledge of individual fields, specific courses, and specific approaches taken by institutions with regard to studies in related fields.

Agriculture

Programs in agriculture in Denmark are comprehensive and range from upper secondary level, to vocational, to university education, and on to graduate research. They range from short 1.5-year programs beyond the compulsory 9 years of education to advanced specialization courses for students with university degrees.

Danes wishing to become farmers must follow a course of study and receive a particular certificate, thus achieving a minimum level of competency, in order to farm. The programs are designed to promote uniform agricultural practices in this country that is internationally known for agricultural excellence and the quality of its agricultural products.

Agricultural Schools

There are 25 agricultural schools (*landbrugsskoler*) in Denmark that offer experiential education mixed with agricultural content courses for training farmers and agriculturists. All of these are boarding schools, and admission is based on completion of 9 years of compulsory education. The courses are based on a modular system. Upper secondary school leavers who apply to the agricultural schools are only excused from the first 2 months in the first module.

Module 1 consists of a 2-month basic course on farming skills, 12 months of practical training on a farm, and a 4-month course in farm mechanics and animal and plant nutrition.

Module 2 consists of 18 months of practical training that exposes the student to various types of production methods, followed by a 6-month course emphasizing plant and animal husbandry. Upon satisfactory completion of Modules 1 and 2, a certificate of Skilled Agriculturist (*Faglært landmand*) is awarded.

Module 3 is the beginning of management education with an emphasis on marketing, and leads to the Green Certificate (*Grønt bevis*), or title of Manager with Green Certificate (*Driftsleder med grønt bevis*). Studies consist of 8 months of educational/work experience learning to identify responsibility to the environment, influence of climate and market variations, 6 months of practical training, and 4 months of a management course that includes the study of economics and computer management scenarios. Possession of a Green Certificate is required of anyone wishing to purchase a farm in Denmark.

Module 4 is only open to a limited number of students, who must have a Green Certificate and wish to become advanced managers. The course is 5 months in duration and includes studies of labor management, managing cooperatives, and marketing. A Green Diploma (*Grønt Diplom*), or the title

of Manager with Green Diploma (*Driftsleder med grønt diplom*), is awarded.

Training for farm technicians (*Landbrugstekniker*) is given in two of the agricultural schools to prepare students for advisory service in the schools. Students must have completed the first two modules and be Skilled Agriculturists (*Faglært landmand*) before they can begin the farm technician training. The 2-year course consists of training in management, sciences, mathematics, and accounting. In 1993 farm technicians made up 35% of the advisory and teaching personnel at agricultural schools.

A student who has completed Module 1 can go on to a 4-year course consisting of 2 years of practical experience and 2 years of school work leading to an Agroeconomist (*Agrarøkonom*) title (not to be confused with an "Agronomist," a title awarded by the agricultural university). Coursework mixes farm management with business practice, and much of it is the same as the coursework for the Green Certificate. There is also a mix of economics logic, farm history and politics, beef and pork production, dairy farming, agriculture financing, accounting, investing, national economy, etc.

Forestry Schools

There is one forestry school, with a number of branches for vocational training in forestry. University-level courses and degrees are offered by The Royal Danish Veterinary and Agricultural University.

Skovskolen (The Danish School for Forestry), Nødebovej 11 A, 3480 Fredensborg, Denmark. Phone: +45 42 28 13 43, Fax: +45 48 47 55 43 (branches throughout Denmark)

Est. 1963.

- **Admission:** For the skilled forest worker and the forest engineer (*Skovtekniker*) programs are the upper secondary leaving certificate with special requirements in chemistry and mathematics and a completed apprenticeship in forestry.
- **Programs:** Short, 1- to 3-week courses to train semiskilled forest workers; in-service (usually less than a week) fundamental training in, for example, the use of a chain saw, felling technique, use and maintenance of tools and personal safety; training of skilled forest workers (3 years); and educating forest engineers (4 years).

The 4-year forest engineer course is divided into three parts. Part I consists of 4 months of theoretical instruction that includes management economy, machinist skills, forest agri-

culture, market orientation, and wood technology. Part II consists of 1 year of practical training and 1 year of theory that includes management planning, management techniques, management economy, park and land planning, ecology, and forest cultivation. Part III requires another year of practice and 6 more months of theoretical training, majoring in forestry or landscape with extra subjects in management studies, law, and management economy. The fixed curriculum includes forestry production technology, economics, forest cultivation and maintenance, sale of forestry production, forests as recreational areas, and business management and development. Mathematics, communication, and law are also taught. Upon completion the title of Forest Engineer (*Skovtekniker*) is awarded. Holders of the *Skovtekniker* degree can pursue the *Candidatus/a silviniomiae/cand.silv.* (Candidate of Forestry) degree at the KVL (see the description below).

University Level Agricultural Programs

University level agricultural and forestry education takes place in the Royal Danish Veterinary and Agricultural University (*Den Kongelige Veterinær- og Landbohøjskole/KVL*), that is under the jurisdiction of the Ministry of Education. The degree structure is like that of the other comprehensive universities, with most awarding a bachelor's degree after the first 3 years and a *candidatus* degree after a total of 5 or more years. The degrees are of various lengths and each has unique basic, major, and elective requirements.

Den Kongelige Veterinær- og Landbohøjskole/KVL (The Royal Danish Veterinary and Agricultural University), Bülowsvej 13, DK-1870, Frederiksberg C, Denmark. Phone: +45 35 28 28 28, Fax: +45 35 28 20 79

Est. 1858 when education in veterinary, agricultural, geodesy, and cadastral sciences created. In 1863 horticulture and forestry sciences were added, in 1921 dairy sciences. In 1971 food sciences, geodesy, and cadastral sciences were moved to another university. This is the only agricultural university in Denmark.

- **Enrollment:** (1991-1992) 3,206 students.
- **Staff:** Over 700 with more than 300 academic.
- **Organization:** Three main branches:
 1. *Husdyrbrugs- og veterinærvidenskab* (animal sciences and animal health) with departments of anatomy and physiology, pharmacology and pathology, animal sciences and animal health, clinical studies, and veterinary microbiology.

Table 6.1 Study Plan for Landscape Architecture with number of course points.

<i>Candidatus Program</i>						
Semester						
10	Landscape management, theme (8) or master project (16)				Town planning (3)	or 1 year at another university
9	Master project (16)				Plant material & use advan- tage (2)	
8	Business management (2)	Management of open space (2)	Plant management (2)*			
7	Landscape planning, theme (8)				Sociology (2.5)	

<i>Bachelorgraden program</i>								
Semester								
6	Bachelor project (10)**							
5	Landscape construction (5)		Legislation of land- scape planning (2)		Landscape management (3)			
4	Plant material and use (6)			Adv. horticulture & botany (3.5)		Practical construction course (2)		
3	Landscape planning & graphic design**		Soil sciences (3)		Plant ecology & geobotany (2)			
2	Landscape planning & graphic design**		History of landscape architecture (2)		Land surveying (3)		Horticultural botany (3.5)**	Chemistry (2)
1			Landscape planning, introduction (5)				Landscape analysis (2)*	

* Three-week course in January or June.

** Three-week course in January or June inclusive.

2. *Jordbrugsvidenskab* (agriculture) with departments of agricultural sciences, botany, dendrology and forest genetics, ecology and molecular biology, economics and resources, and plant biology.

3. *Mejeri- og Lænedsmiddelvidenskab* (dairy and food sciences) with departments of chemistry, dairy and food sciences, mathematics and physics. There are eight areas of study: agricultural economy, agricultural sciences, dairy

sciences, food sciences, forestry, horticultural sciences, landscape architecture, and veterinary sciences. Table 6.1 (above) is a typical Landscape Architecture plan of study indicating the courses required.

- **Admission:** Restricted admission (*Numerus clausus*) for all programs, and upper secondary course distribution requirements. During 1991 the following examination averages were required for admission: agricultural sciences, 8.1;

dairy sciences, 8.6; food sciences, 9.0; forestry, 9.8; horticulture, 8.2; veterinary sciences, 9.4.

- **Program structure:** Themes are used in the structure of courses, i.e., landscape planning theme, management theme. Economics introduced in management theme, along with business and plant management. Each theme is a combination of several courses taught by individual teachers. Lectures and independent project work are contained in the theme.

This program is an example of the reorganizing of programs and courses to adapt to the bachelor-master system. During reorganization, faculty aimed at establishing "themes" to develop coherence within the program. The *bachelorgraden* was established to enable students to terminate after 3 years, or enroll in another university in Denmark or abroad for *candidatus* study.

The two-tiered system altered landscape architecture from 4 years of theory and 1 year of professional practice to 5 years of theory (3 years for the bachelor's degree and 2 years for the *candidatus* degree).

Total course working time is described in points; 10 points equals working time for one term (i.e., 6 months) corresponding to 900 hours. A course must be at least 2 points, corresponding to 180 hours. Bachelor courses are compulsory except for 6 points. The *candidatus* draws options from the courses offered before preparing the required thesis. The main elements include basic science courses, chemistry, soil sciences, botany, and surveying. Among professionally related landscape architecture courses are landscape planning and design, landscape construction, plant material and management, and management of open space. Economics is required. Each theme is a combination of several courses, taught by several teachers. Lectures as well as independent project work are contained in each theme.

At the end of the fourth term, students attend an intensive 3-week course in landscape construction at a technical school to provide practical experience in planting, paving, and other work and, introduce them to technical equipment used by landscape constructors. The stay at a technical school is replacing an actual 2- to 3-month trainee period at a landscape company. During the sixth term, student works at a landscape architect's office. These offices will assign the student a project, which will be examined by professors at KVL. This bachelor's project

replaces 3 months' practice at a drawing office. *Candidatus* project replaces either 8 or 16 points of theory. If an 8-point project is chosen, remaining 8 points are obtained by studying an additional 8-point theme.

Credentials Awarded:

Bachelorgrader/B.S. (Bachelor's degree) Awarded after 3 years study and 60 points. (The total working time is described by points. Ten points equals working time for one term (i.e., 6 months) corresponding to 900 hours. Course must be minimum of 2 points or 180 hours). *Bachelorgraden* is awarded in all fields except food sciences, and veterinary sciences.

Levnedsmiddelingeniør (Food Technology Engineer): Awarded after completion of 3.5 years of study (60 points) in food sciences, and a half year of practical training with *Danmarks Tekniske Højskole/DTH* (The Technical University of Denmark).

Candidatus/a hortonomiae/cand hort. (Candidate of Horticulture): Awarded after 5 years of study (100 points), with major in gardening, fruit growing. Danish for horticultural sciences is *Havebrugsvidenskab*. Basic studies in first 3 years include math, statistics, computer sciences, physics, chemistry, biochemistry, edaphology, cytology, genetics, zoology; garden botany, plant anatomy, and plant physiology. Horticulture and landscape courses follow basic studies course. Holder of degree known as *Hortonom* (Horticulturist).

Candidatus/a hortonomiae architecturae/cand. hort.arc. (Candidate in Landscape Architecture): Awarded after 5 years of study (at least 100 points) with major in landscape architecture. Specialized courses include land surveying, drawing, greenhouse climatology, greenhouse and building techniques, farm buildings, landscape and landscape preservation studies, sociology, many horticulture courses. (See Table 6.1 for study plan, previous page.)

Candidatus/a agronomiae/cand.agro. (Candidate in Agriculture): Awarded after 5 years of study (100 points) in agricultural sciences (*landbrugsvidenskab*) or agricultural economics (*jordbrugsøkonomi*).

Candidatus/a bromatologiae/cand.brom. (Candidate in Food Sciences): Awarded after 5 years of study (100 points) in food sciences (*levnedsmiddelvidenskab*). Basic subjects are math, chemistry, biochemistry, physics, statistics, computer sciences, economics, and various biological subjects. The required food sciences subjects are nutrition, food hygiene, microbiology, food pre-

servation, food legislation, administration, quality analysis, and processing technology in the food industry. Students may focus on Animal or Vegetable Production, or Hygiene and Microbiology, or broad knowledge of Food Technology.

Candidatus/a lactonomiae/cand.lact. (Candidate in Dairy Sciences): Awarded after 5 years of study in dairy sciences (*mejeribrugsvidenskab*), 1 year is practical training in a dairy.

Candidatus/a medicinae veterinariae/cand.med.vet. (Candidate of Veterinary Medicine): Awarded after 5.5 years of study in veterinary sciences (*veterinærvidenskab*). No bachelor's degree awarded after the first 3 years. (See Chapter 7 for program.)

Candidatus/a silvonomiae/cand.silv. (Candidate of Forestry): Awarded after 5 years of study (100 points) in forestry (*skovbrugsvidenskab*), 1 year practical training in forestry is prerequisite for admission.

Ph.D.-graden (Ph.D. degree): Admission requires at least *candidatus* degree. Topic must be approved by postgraduate committee. Program is a minimum 3 years of study and research culminating in defended thesis.

- **Special Programs:** KVL has clinics for both large and small animals, and out-patient clinics. Many projects in developing countries sponsored by DANIDA (the Danish International Development Agency), collaborating with Food and Agriculture Organization/FAO and World Health Organization/WHO, closely related to veterinary and agriculture universities throughout the Nordic countries. The post-graduate courses in the Nordic community are offered on different topics in each country to avoid wasting resources.
- **Research:** Centers, research institutes, and Denmark's National Veterinary and Agricultural Library. Include Center for Ecology and Environment, Center for Food Research, Center for Tropical Agriculture, Institute for Dairy Research, Institute for Seed Pathology for Developing Countries, and Research Institute for Human Nutrition.

KVL's veterinary sciences program carries out research ranging from basic to biotechnology. Animal sciences and veterinary research are being integrated. Much research is done on food quality and human nutrition, from basic to the most modern in the field. Research is done in the areas of dairy sciences and technology, plant-related disciplines, plant biochemistry, and biological control of pests in agriculture, horticulture, and forestry. Attention

is given to fundamental research of ecology of agricultural systems.

Art and Design

Fine Arts

Studio art is not studied in universities in Denmark but in specialized art academies. One national academy and three private academies of art receive partial state support. The national academy is:

Det Kongelige Danske Kunstakademi (The Royal Danish Academy of Fine Arts), Kongens Nytorv 1, 1050 Copenhagen K, Denmark. Phone: +45 33 12 68 60, Fax: +45 33 12 75 98. For the Visual Arts School only, Fax: +45 33 32 24 35

Est. 1754, currently has the status of institution of higher education, operates under Ministry of Culture, under regulations from Ministry of Education.

- **Organization:** School of Visual Arts, School of Architecture, School of Conservation. Within School of Visual Arts, school of basic studies and eight schools of advanced study (two schools of sculpture, three schools of painting, school of graphic arts, school of media arts, art theory, and general aesthetics, and school of mural and spatial art).
- **Admission:** With the exception of Architecture (see below), there are no specific entrance requirements. Admission is based on assessment of work reviewed by all professors, several teachers, four students, and four external artists. Approximately 600 students applied for 25 places at Academy in 1992.
- **Program Structure:** First degree course in visual arts at the Academy requires 6 years of study, divided into two parts. Part I is a basic 2-year course for painters, sculptors, and graphic artists working together. Part II requires 4 additional years of specialized study in one of the Academy's eight art schools. On completion of Part II studies or equivalent studies from another art academy, students may apply by special entrance examination to Art Teacher Training Course, that requires an additional 2 to 3 years of study and qualifies graduates to teach at the gymnasium level.
- **Assessment and Graduation:** Students required to keep journal throughout course of study to document efforts, knowledge. Journal includes task reports, theory papers, and, if applicable, study agreements. Teachers review journals periodically. Students often apply for

graduation on the basis of review of a study journal, and a chosen graduation assignment or assignments. It is possible for a student to be assessed solely on the basis of a graduation assignment and previous assignments. Permanent examination committees set up to review assignments in each department are composed of two internal and one external examiner. Projects and assignments are either *godkendt* (approved) or *ikke godkendt* (not approved).

Credentials Awarded:

No written examinations or grades are given (see above). The final diploma is a *Studiebevis fra Kunstakademiet* (Study Certificate from the Royal Danish Academy of Fine Arts) showing the field of specialization, e.g., painter, artist, sculptor, graphic artist, or art teacher.

Upon completion of the art course students are also eligible to apply to the School of Conservation for specialized studies in art conservation. The specializations are Pictorial Art, Culture History, and Graphic Art. *Kunstakademiet's Konservatorskole* (School of Conservation) is located at 34 Esplanadan, 1236 Copenhagen K, Denmark. Upon completion the *Konservator* (Conservation Specialist) title is awarded.

Two other fine arts academies, *Det Jyske Kunstakademi* and *Det Fynske Kunstakademi*, have a mixture of national and private support. The *Århus Kunstakademi* is a private institution.

Det Jyske Kunstakademi (The Jutland Fine Arts Academy), Mejlgade 32-34, 8000 Århus C, Denmark. Phone: +45 86 13 69 19

The program is 5 years in duration with a common, 1-year introductory course for all students. There are no academic qualifications for admission. Students must present portfolios or art works for evaluation by the faculty for admission. They may study ceramics, graphic art, painting or sculpture. Students are eligible to apply for state financial aid for this program, but they must cover the cost of the materials themselves. Upon completion students are awarded an *Afgangbevis* (Leaving Certificate) that indicates the major field.

Det Fynske Kunstakademi (The Funen Fine Arts Academy), Brandts Passage 43, 3. sal, 5000 Odense C, Denmark. Phone: +45 66 11 12 88

The academy is monitored by the Community of Odense and the Culture Minister of Funen. The program is 5 years in duration with majors in painting, sculpture, and graphic arts. There are no academic admission qualifications. Students inter-

ested in painting must present a portfolio of 4 to 6 paintings, in sculpting students must show 4 to 6 examples of their works, and students of graphic arts must present a portfolio of 10 to 15 works to the faculty to be evaluated for admission to the institution. The first year of fine arts study is the same for all students. Much of the remainder of the 4 years is dedicated to individual studio work supervised by a teacher. Students may apply for state financial support for the entire 5 years of the program, but they must pay for their own materials. Upon completion students are awarded an *Afgangbevis* (Leaving Certificate) that documents the regulations of the program and indicates the major.

Århus Kunstakademi (Århus Fine Arts Academy), Vestergade 29, 8000 Århus C, Denmark. Phone: +45 86 13 81 44

This is a private institution, and students are not eligible for a state stipend. Study is offered in painting, graphics, sculpture, illustrating, weaving, and ceramics. Some courses are preparatory, others programs of study having a duration of up to 3 years. One-year basic courses are offered in design, modeling, and mixing colors. Courses may be on a fulltime or part-time basis, with fees charged for both.

Applied Art and Design

Courses in applied art, craft, and design courses are offered at two separate institutions and the School of Architecture of the Royal Danish Academy of Fine Arts. (See section on Architecture for details of the latter program.)

Danmarks Designskole (Danish College of Design), Strandboulevarden 47, DK-2100 Copenhagen Ø, Denmark. Phone: +45 35 27 75 00 Fax: +45 35 27 76 00

Students major in ceramic and glass design, fashion design, furniture and industrial design, graphic design, interior design and sceneography, or textiles design. Each subject is organized into a department. There are no academic admission requirements; students present a portfolio or other evidence of their interest in the field. There is an admissions test after an initial assessment as to whether or not the applicant has sufficient qualifications to enter the course. Most of the teachers are active designers and craftsmen.

Courses take between 3.5 to 5 years to complete. There is a common foundation first year providing basic education in design awareness, art, and design history. In the second year, students choose one of the majors. Students must apply for

admission for the third part of the study in one of the attached Institutes: Institute of Visual Communication (illustration, graphic design, video graphics, including animation), Institute of Crafts (ceramics, glass, jewelry, textiles, and furniture), Institute of Spatial Design (interior design and set design) or Institute of Industrial Design (fashion design, textiles, furniture, and product design). Students with relevant academic bachelor's degrees from other academic programs may also apply to the institutes. In the Institutes, students work independently and are regularly assessed to determine if they are able to move on to the next level of study. At the end of the study, students receive the title *Designer*.

Kunsthåndværkerskole (College of Art, Crafts and Design), Dalbygade 40, DK-6000, Kolding, Denmark. Phone: +45 79 32 02 44, Fax: +45 75 53 70 17

The course of study leading to the degree of *Designer* is 3.5 to 5 years, including a basic interdisciplinary year of study. Upon completion of the first year, students choose one of four majors: fashion design, graphic design and illustration, ceramics and glass, or textiles. The major is studied for an additional 2 to 3 years. Students then apply to one of the three institutions of the School: Institute of Industrial Design, which broadens involvement in all phases of industrial design; Institute of Crafts, which develops talents and equips students with independent artistic solutions that are aesthetically viable and workable in daily life; or Institute of Visual Communications, which prepares students to work in traditional graphic techniques as well as computerized advanced graphic design tools. Studies in the Institutes last between 6 months and 2 years, depending on the subjects and final examination project chosen. Admission to the initial year of study requires students to have at least 2 years of experience working with drawing, form, and color. Preliminary evaluation is made based on assignments set by the College, following which there is a 3-day entrance examination. Students with bachelor's degrees from other relevant academic programs may also apply to the Institute programs.

Graphic Design

Den Grafiske Højskole (The Graphic College of Denmark), Glentevej 67, 2400 Copenhagen NV, Denmark. Phone: +45 31 10 11 77, Fax: +45 38 33 06 30

Est. 1943, the institution operates under the authority of the Ministry of Education, has close associations with the printing industry.

- **Staff:** 35 fulltime/100 part-time, composed of graduate engineers, craftsmen, graphic designers, documentalists, and economists.
- **Organization:** The college is organized in departments: administration, economics, education and training, graphic communication, information, marketing and managerial science, printing and allied technologies.
- **Admission:** Admission to either of the graphic programs requires completion of secondary school education (*Stuentereksamen* or *HF*), and a minimum of 10 months of vocational training in design or completion of graphic vocational education, and a minimum of 3 years of relevant work experience. A required special admission examination is set by the school. The average age of the students is 24 years.
- **Program Structure:** Two training programs are offered: one in graphic communication and one in graphic technology and economics. Both lead to the *Grafonom* diploma. Research is conducted with printing establishments. The college provides consultative services.

Credentials Awarded:

(Examination certificates are issued in Danish, English and German):

Diplom i grafisk kommunikation (Diploma in Graphic Communication [Design]): A 2-year fulltime program in graphic form, communication, product and production. Graduates are referred to as *Grafonom*. The course includes design (calligraphy, design and colors, history of style and art, lexigraphy, picture analysis, photography, type and typography including history and analysis of type), communications (communications and marketing, including language and text and creativity with a brief trainee period at an advertising agency), product design (media design, including design of advertisements, newspapers, business forms, books and covers, brochures, packaging, corporate design, posters, journals and exhibition, and computer graphics) and production (origination, printing technology, including graphic text processing, printing inks and papers, reproduction, printing, finishing, and print production planning), and economics (business economics, costing, and commercial and copyright law).

The teaching is primarily assignment-oriented. Students work independently in the studios and workshops, may undertake a third year of study to broaden their training, not subsidized by the Danish Ministry. There is supplemental classroom teaching in theoretical

subjects. Graduates are employed in advertising bureaus, publishing firms, or independent graphic drawing offices. A certificate of study is issued by the school.

Diplom i grafisk teknik og økonomi (Diploma in Graphics Technology and Economics) [translated on the examination certificate as Printing Technology and Business Administration]: A 2-year fulltime program training students for managerial posts in the graphics industry. The course trains students for positions in production, administration, and marketing. There are four main groups of subjects: graphics technology (introduction to the technological processes in graphic text and picture processing, graphic image processing, printing technology, finishing/packaging, computer systems sciences, production plant layout planning, and practical training in graphic production); economics (accounting including data encoding, annual accounts, and financial analysis; business economics including operational and finance budgeting, costing systems, order estimating, and appraisal of investments; marketing; management and macroeconomics); organizational and managerial studies (production management, industrial sociology, technological rationalization, process analysis, labor law, commercial law, work sociology, work environment, etc.); and basic subjects (graphic communication, computer sciences, chemistry, and graphics English).

Students may continue for an additional year to broaden and internationalize their program, which is not subsidized by the Danish government. The students pay a fee and may work in a research program or with companies. Part of the study takes place at the Rochester Institute of Technology, Rochester, New York. At the end of the third year students receive a certificate from the Graphic College of Denmark. Graduates of the 2-year program are eligible to continue towards the Diploma in Business Studies (HD) or Diploma of Business Economics.

Certificates are awarded for advanced short courses and seminars on subjects related to the graphics field, such as a layout course that is offered in three weekends, a 5-day course in computer graphics, etc. There is also a 2-year evening course or 1-year periodic day course for training printing supervisors.

Architecture

Kunstakademiets arkitektskole i København (School of Architecture of the Royal Danish

Academy of Fine Arts), Kongens Nytorv 3, DI-1050, Copenhagen K, Denmark. Phone: +45 33 12 68 60

Est. 1754.

- **Enrollment:** (1992) Approximately 1100. Approximately 160 students admitted annually.
- **Organization:** The school is divided as follows:
 1. restoration and building archeology, with a laboratory for building restoration;
 2. building sciences and building technology, with departments of acoustics, lighting, building administration, the theory of construction, the science of building materials, indoor climate and installation (offers courses only, students are not enrolled);
 3. building design, divided into 10 departments, and a department for architectural theory and history, and also a laboratory of housing;
 4. town and landscape planning;
 5. design, with departments of furniture design, graphic design with communication design, and industrial design; and,
 6. visual communication with data processing laboratory (offers courses only, no students).

The National Center for Building Documentation, workshops of the schools, and the library of the Royal Danish Academy of Fine Arts are affiliated.

Arkitektskolen i Aarhus (School of Architecture, Aarhus), Nørreport 20, DK-8000, Aarhus C, Denmark. Phone: +45 6 13 08 22

Est. 1965.

- **Enrollment:** (1992) 700. Each year 110 new students are admitted.
- **Admission:** Admission to architectural studies requires completion of upper secondary school examinations with the average in 1992 of 9.4 or the equivalent. Students who hold *Tekniske Skole* (Technical School) diplomas as building contractors (*byggekonstruktør*), however, may be admitted by examination.
- **Organization:** Four departments (A, C, G, and E) in building design; one for town and regional planning (Department B), one in urban design (Department D/N), one specializing in housing and planning in the Third World (Department U), one concentrating on restoration of houses and parts of town (Department O), one in landscape architecture (Department L), and one concentrating on furniture and interior design and industrial design (Department M/ID).
- **Program Structure:** The first degree in ar-

chitecture is essentially the same at the two institutions. Both programs begin with a 2-year basic study course (Part I), followed by 3 years of study in a specialized field or fields. Studies terminate with a final 3-month project that is assessed by internal and external examiners. The student then applies to take the final examination leading to the degree. The study is project-oriented work, supplemented by lectures, courses and seminars.

Credentials Awarded:

Candidatus/a architecturae/cand.arch. (Candidate in Architecture). Degree requires 5.5 to 6 years of study. Curriculum consists primarily of studio projects supplemented by lectures, seminars, and specialized courses. The last 6 to 12 months are used for the diploma thesis project. The degree entitles the holder to use the title of *Arkitekt* and to become a member of the Association of Danish Architects and is recognized by the European Community (EC) as the professional degree to practice architecture in Europe. (See *Diplom arkitekt/cand.-arch.*, Document 6.1.)

Licentiat architecturæ/lic.arch. (Licentiat in Architecture). An independent research degree beyond the *cand.arch.* It has been offered in Copenhagen since 1980 and in Aarhus since 1988.

Ph.D. An independent research degree that replaces the *Lic.arch.*

Short term 1-year programs are also offered for students enrolled in another tertiary institution or for those who have a diploma in architecture.

- **Grading:** There are no compulsory courses after the basic studies. There is continuous assessment and students receive a written progress assessment twice a year. At the end of Part I (basic studies), a total assessment is made before students can continue in Part II. No grades are given.

Business Administration and Commerce

Business is taught at every educational level in Denmark, and it is important to clearly identify the level of training. Commercial upper secondary level programs leading to the upper secondary commercial school leaving certificate, the *Højere handelseksamen/HHX*, are described in Chapter 3. An apprenticeship in business is a frequent choice of graduates of the primary and lower secondary school, the *folkeskole*. For example, there are eight special-

izations in the clerical training program, including medical secretary, legal secretary, and public administration secretary. At the conclusion of such a program, the student receives a certificate of completion of the apprenticeship (*Seendeprøve* or *Seendebevis*). There are also programs in the field of business (described below) that are vocational in nature and may be taught at commercial secondary schools, business schools, or universities. As each program is approved by the Ministry of Education, content and title of the program is the same no matter where taught.

Programs Offered at Upper Secondary Institutions

Many postsecondary business programs are offered in commercial upper secondary schools in Denmark. These programs may require completion of upper secondary qualifications or employment in related fields or appropriate apprenticeships. Programs offered at commercial upper secondary schools (*handelskolen*), or through special secondary level "export" schools, are:

<i>Akademiøkonom</i>	1 to 1.5 years
<i>Eksamineret Eksportør</i>	1.5 years
<i>Eksporttekniker (Tekniske Skole)</i>	4 years
<i>Markedøkonom</i>	3 years, part-time
<i>Merkonom</i>	3 years, part-time
Part I, <i>HD</i>	2 years, part-time
<i>(Handelsvidenskabelig Diplomeksamen)</i>	
<i>Datanom</i>	2 years

Akademiøkonom (Academy Economist): 1-year program, offered on a fulltime or part-time basis in approximately 30 secondary business schools (*handelskolen*). Admission requires completion of upper secondary school (*Højere handelseksamen/HHX*) with the *HHX* high level examination result in English, French, or German. This program combines theory and practical business courses with specializations in export, import, marketing, or advertising.

Eksamineret Eksportør/EE (Exporter Diploma): a 1.5-year program with a 3-month traineeship offered at *Den Danske Eksportskole i Herning*. Admission requires 2 years of relevant work experience, or being 22 years of age, or an *HHX* examination. The program is vocational in nature, with courses taught in exporting sales, cultural analysis, export marketing research, product strategy, economics, law, export practice, language, market planning, and microeconomics.

With the development of the European Community and the economic integration of markets in Europe, there is a recognition that new professional skills are required. Many newly established busi-

ness/economics programs and programs emphasizing business and language study have become popular. For instance, a study program in market economics, the *Markedsøkonom*, is offered in 26 upper secondary commercial schools.

Markedsøkonom (Market Economist): A 2-year program taught on a level higher than the upper secondary commercial program. The program is divided into 2 semesters the first year and 3 trimesters the second year. After the first year, many students spend 5 weeks abroad in an Inter-skills Program, developed by the Ministry of Education, that gives them experience overseas and introduces them to business abroad. There are no requirements for admission (100% are admitted to the *Markedsøkonom* program through nontraditional routes, e.g., work experience) though many of the participants have Upper Secondary School Leaving Certificates (*Studentereksamen*) or the equivalent.

The 2-year program is skills-oriented to provide the student with the theoretical, personal, and professional qualifications necessary to plan and undertake international business assignments and commercial tasks in the fields of trade, manufacturing, and service. English is a requirement of the program, as is a second language, either French, German, or Spanish. There are also courses in business economics, production management and logistics, international economics, commercial law, statistics, and administrative systems. At least four major projects are required: one analyzing a company with international relations; another analyzing a foreign market; still another developing a market plan, budgeting, and risk assessment; and finally an interdisciplinary project on international marketing that usually includes a research trip to the targeted market area.

Courses are marked on the regular Danish grading scale of 13-00, with 6 the lowest passing grade. Transcripts are available in Danish and English. Credential awarded is the title Market Economist (*Markedsøkonom*). (See Document 6.2, Market Economist Diploma.) Tertiary business schools in Denmark do not award credit for work completed in this program toward the academic *HA* program. If a student applying to a business school had a weak secondary school leaving certificate, the *Markedsøkonom* might improve the student's chances for admission. The *Markedsøkonom* does give direct admission to the *HD* (Part II).

Merkonom (Commercial Diploma): A 3-year part-time course, organized in modules for people who are working fulltime. Admission requires completion of a course of vocational education or at least 2 years of relevant experience. There are many specializations within the program, includ-

ing auditing, data processing, export, finance, international marketing, management accounting, operations management, organization, personnel administration, purchasing, transportation and tourism, and shop management. Each specialization has a minimum of 6 modules (courses). All contain microeconomics and organization and many include management and cooperation. Modules consist of 2 hours of teaching per week for 30 weeks. Students normally take 2 courses a year.

Handelsvidenskabelig Diplomeksamen/HD (literal translation, Commercial Sciences Diploma): Commercial upper secondary schools throughout Denmark offer Part I of the Diploma in Business Studies. Admission to Part I requires an upper secondary school leaving certificate or completion of grade 9 and an apprenticeship of at least 3 years. All applicants must have passed examinations in accounting/operations economics at the minimum *HH* level, mathematics at the *HH* level 3, English at the *HH* level 4, social studies and Danish at the *HF* level. The tertiary business schools offer the complete *HD* (see description below).

Datanom (Computer Specialist): The 2.5-year program is offered in upper secondary commercial schools in Copenhagen, Lyngby, Aarhus, Odense, Sønderborg, Aalborg, Roskilde, Vejle, Ballerup, Nykøbing F., Esbjerg, and Skive. Completion of one of the upper secondary school leaving certificates is required for admission. The program is divided into 5 modules. The first 4 semesters each contain 3 subjects. Semester 1, datamatic platform: business studies, machine architecture, program construction, and operative systems. Semester 2, development of data systems in industry and commerce: data modeling, industrial and commercial systems, and systems development. Semester 3, datamatics: communication, programming methods, resource sharing, and systems development methods. Semester 4, specialization: distribution systems and integration and 2 optional subjects from among systems development, systems strategies, or systems technology. Semester 5, final project.

Shorter 1.5-year courses are given in applied computer data. About 45 different courses cover central topics within the field of applied computer sciences such as algorithm construction, user-oriented systems development, systems development, and testing and quality control. Admission to these courses requires completion of half a *bachelorgraden* (bachelor's degree) or *HA* (Commercial Sciences Leaving Diploma), 2 years of relevant work experience, or experience as computer assistant.

Upper secondary commercial schools provide many continuing education programs for local

communities. The courses are developed on an as-needed basis by the schools or by local industry, and are typical of in-service programs throughout the world. Many who enroll have previous qualifications and take these courses for enrichment or to upgrade skills. These courses are also available to the unemployed, who may use them to upgrade their skills and increase their market-ability. The national government pays for the coursework in these cases.

Programs Offered at Tertiary Institutions

Business programs generally taught at the tertiary level are offered primarily in the *Handelshøjskoler* (Business Schools, or literal translation, Higher Commercial Schools) in Denmark. Danes translate *handelshøjskole* as "university" because the schools are on the same level as the comprehensive universities. Some programs are also offered in Aalborg University, Odense University, and Roskilde University. Business School profiles below identify programs offered at each institution.

Admission to all business universities requires completion of an upper secondary school leaving certificate. Because schools do not have sufficient places for all who apply, admission is restricted. Decisions are made primarily on the basis of average marks achieved on the school leaving certificate. Students who apply to the business programs apply through the same centralized system as students applying for programs in the comprehensive universities (see Chapter 4 for description). Provision is made to admit a certain number of applicants with other qualifications combined with work experience, study abroad, or other relevant activities.

Credentials Awarded:

Programs are listed in order of length and subject matter sequence where possible. Business education has a stream of programs focusing on language studies and commerce, and another stream of programs that relate more closely to U.S. business school programs.

Erhvervsproglig Korrespondent (Commercial Language Correspondent, sometimes translated as Commercial Secretary, Bilingual Secretary or Business Language Secretary): A 3-year part-time program of study in one foreign language, that is equivalent to 1.5 years of fulltime study. This stand-alone intensive program is offered on a modular basis and comprises language modules and modules in economics, law, and databases and communication. It is intended to give a student solid linguistic competence in a second language so that bilingual secretarial

skills are learned. Upon completion a student may obtain a professional job, or may go on to the *Erhvervsproglig diplom/ED* (Commercial Language Diploma).

Erhvervsproglig Korrespondent (Commercial Language Correspondent): A 2.5- to 3-year fulltime program (depending on the language studied) for business assistants. The specialized business language study in two languages is offered in English, French, German, Russian, and Spanish. In 1993 this program became a regular 3-year *bachelorgraden* program (*Bachelor linguae mercantilis/B.ling.merc* (Bachelor's in Business and Language).

Erhvervsproglig diplomprøve/ED (Commercial Language Diploma): A 2-year part-time program in one foreign language. Admission requires either the *Erhvervsproglig Korrespondent* degree (above) in the same language, or an *HA.ling.merc* (first degree in business and language) or *B.ling.merc* (Bachelor's in Business and Language) in order to specialize in another language and become proficient in translating economic, legal, and technical texts. The program is offered in English, French, German, Italian, Spanish, and Russian. Up to 1988 holders of this certificate in two foreign languages could continue on to the *candidatus* program in business language at the Copenhagen Business School.

Bachelorgraden linguae mercantilis/B.ling.merc. (Bachelor in Business and Language): A 3-year program specializing in mastering two foreign languages as well as teaching the culture of the language by studying economics, law, databases, and communication. Students holding the *B.ling.merc* may continue to the *Cand.ling.merc.* or to the *ED*.

Candidatus/a linguae mercantilis/cand.ling.merc. (Candidate in Business and Language): A fulltime 3-year program designed to qualify graduates to work in companies in the areas of translation, interpreting, communication/PR, and export and as teachers at business schools and business colleges. The degree coursework specializes in one language only and is directed toward business. There is an emphasis on economic, legal, and technical translation and interpreting, cross-cultural studies, linguistics, translation criticism, and scientific methodology. Holders of the degree are authorized as "sworn interpreters." (Note: There is also a 2.5-year graduate specialization in computational linguistics. In 1996, this program will become a 2-year program built on the 3-year bachelor's program.)

Handelshøjskolen Diplomeksamen/HD (Business School Diploma): A 4-year part-time program equivalent to 2 years of fulltime study. (Part I, first 2 years of the Diploma, is also offered at the commercial upper secondary schools; see above.) Part I is a general course of study covering basic economics, methods of economics, and business economics. In Part II, students specialize in one of seven fields of study: financial and management accounting; finance and credit; informatics and management accounting; international management and economics; business logistics; marketing management; or organization. There are compulsory and elective courses within each specialization. Students are expected to integrate the theory with practice by drawing from their current employment experience. There are no restrictions on admission since this program charges fees. Students are expected to have one of the upper secondary school certificates or have considerable professional experience. Students who have an *HA* or, in some cases, a *Markedsøkonom* may be admitted to Part II of the *HD*.

Handelsvidenskabelig Afgangseksamen/HA (Business School Leaving Diploma) or *almen erhvervsøkonomiske* (General Business Economics): Is the Business equivalent of the *bachelorgrad* in the comprehensive universities. This is a 3- to 3.5-year degree program that requires 1 to 2 years of basic studies. (At the University of Roskilde students take the 2-year social sciences basic course and then the 1.5-year economics and business administration course for the *HA*.) The students follow a set pattern of courses. This program provides a generalized theoretical background and some practice in economics and management. Project work and seminars are also included. The general *HA* is in economics and business administration. Students take courses in micro- and macroeconomics, descriptive economics, and specific subjects such as the balance of payments, public sector finance, and interest rate levels.

Students also take courses in accounting, corporate strategy, the environment, finance, marketing and organization, etc. Graduates may continue on to the *Cand.merc.* (Candidate in Economics and Business Administration), or the *Cand.merc.aud.* (Candidate in Business Administration and Auditing). In the sample program from the Copenhagen Business School that follows, hours indicate scheduled class hours including courses, projects, and seminars.

Semester 1

Business Economics (41 hours)
Business Economics Exercises (26 hours)
Economics I (48 hours)
Descriptive Economics (47 hours)
Theoretical Statistics (79 hours)
Data Processing (36 hours)
Data Processing Exercises (36 hours)
Supplementary Math (70 hours)
Descriptive Economics Project (121 hours)

Semester 2

Business Economics (32 hours)
Business Economics Exercises (16 hours)
Economics I (42 hours)
Accounting (33 hours)
Theoretical Statistics (54 hours)
Data Processing (30 hours)
Data Processing Exercises (27 hours)
Supplementary Math (56 hours)
Interdisciplinary Project (244 hours)

Semester 3

Accounting (36 hours)
Accounting Exercises (36 hours)
Commercial Law (60 hours)
Finance (60 hours)

Semester 4

Organization (45 hours)
Economics II (45 hours)
Commercial Law (60 hours)
Elective Courses (24 hours)
Accounting/Finance Seminar Work (265 hours)

Semester 5

Marketing (94 hours)
Corporate Strategy and the Environment (24 hours)
Theory of Science and Methodology (25 hours)
Elective Courses (24 hours)
Organization Seminar Work (262 hours)

Semester 6

Introduction to Final Project (40 hours)
Marketing/Corporate Strategy and the Environment Seminar Work (265 hours)
Final Project (435 hours)

Many *HA* degrees specialize in other fields of business and economics. Some examples of these are the degree in Business Administration and Computer Sciences, the *HA(dat.)*; Business Administration and Commercial Law, the *HA(jur.)*; Business Administration and Management Sciences, the *HA(mat.)*; and International Business

Administration and Modern Languages, the *ESA*. Graduates of the *HA(dat.)* can go on to the Candidate of Business Administration and Computer Sciences (*Cand.merc. [dat.]*), *cand.merc.aud.*, or *HD* (Part II). Graduates with *HA (jur.)* can go on to the Candidate in Business Administration and Commercial law program (*Cand.merc. [jur.]*), *cand.merc.*, *cand.merc.aud.*, or *HD* (Part II). Graduates with *HA (mat.)* can then go on to the Candidate in Business Administration and Management Sciences program (*Cand.merc. [mat.]*), *cand.merc.*, *cand.merc.aud.*, or *HD* (Part II), and graduates with the *ESA* can continue on to the Candidate in International Business Administration and Modern Languages program (*cand.merc.int.*), *cand.merc.*, or *HD* (Part II).

The *candidatus* programs are structured like the *candidatus* degrees in all the comprehensive universities. The first degree, the *HA*, in a specific area gives a broad introduction to the field and generalized knowledge of the field. The 2-year *candidatus* degree allows students to acquire specialized qualifications at a high academic level. Until 1992 some students designed their own programs in order to cover specific fields among 90 specialized subjects offered within relevant fields, e.g., marketing, organization and labor sociology, business economics, and finance. Since 1992 it has been a 2-year structured program.

The Candidate in Economics and Business Administration (*Cand.merc.*) can be taken at the business schools in Aarhus and Copenhagen, Handelshøjskole Syd, and the Universities of Aalborg and Odense. The same schools offer the Candidate in Business Economics and Auditing (*Cand.merc.aud.*). The 2-year *candidatus* course in Business Economics and Auditing constitutes the theoretical part of the training of government-authorized chartered accountants. The program consists of four main fields: Auditing, Accounting, Tax Law, and Commercial Law. Statistics and an interdisciplinary seminar are required as well as a dissertation. In order to become a Chartered Accountant, 3 years of practical training (2 following the final institutional examination) are required with a chartered accountant, after which applicants sit for a qualifying examination under the auspices of the Commission of State-Authorized Chartered Accountants.

The *Examinatus oeconomiae/Exam. oecon.* (Economic Examination) is a 2-year continuing education program offered at Århus University for students who already have a *bachelorgraden* in another subject and further theoretical study. An individualized course schedule is arranged for each student by the student and a faculty member. Courses are chosen from those offered in the *Cand.oecon.* sched-

ule of classes. A seminar paper that requires an oral defense, or a 60-100 page thesis discussed by the student, teacher and an external examiner is required. The mandatory subjects are budgeting, economics, financial accounting, management accounting, management organization, marketing management, either organization theory or finance/investment planning, and either strategic management or product marketing strategy.

It is possible to obtain a Ph.D. in any of the business fields or business and foreign language as a structured research program or as a research degree. Executive management courses are tailored to update managers and organizations in targeted areas. Courses are developed by the institutions but are often suggested by businesses or industry.

Business Schools

Handelshøjskolen i Aarhus (The Aarhus School of Business), Fuglesangs Allé 4, Aarhus V, DK-8210, Denmark. Phone: +45 86 15 55 88, Fax: (+45) 86 15 01 88

Est. 1939. Until 1950 an evening school, offering only study towards the *HD* (Commercial Sciences Diploma) and a *Korrespondent* (Bilingual Secretary or Correspondent) degree. In 1951 the 3-year *HA* (first degree in Economics and Business Administration) was established. In 1955 the *Korrespondent* degree was offered in 3 foreign languages, and in 1956, the school obtained university status.

- **Enrollment:** (1991) 6,100. (4,600 in Faculty of Business Administration/1,500 in Faculty of Modern Languages).
- **Staff:** 150 academic staff/130 administrative
- **Organization:** Business Administration and Modern Languages. The Faculty of Business Administration has the following 11 departments: accounting, applied and descriptive economics, auditing, business law, economics, finance, information sciences, international business, management sciences, marketing, organization and management, and quality management. The Faculty of Modern Languages has the following five departments: business practice, English, French, German, and Spanish.

Credentials Awarded:

Faculty of Modern Languages:

Erhvervsproglig korrespondent (Commercial Language Correspondent): Awarded after 3 years of part-time study in 1 foreign language specializing in commercial subjects and culture.

Erhvervsproglig Korrespondent (Commercial Language Correspondent): A 2.5- to 3-year fulltime

program (depending on the language studied) for business assistants. The specialized business language study in two languages.

Erhvervsproglig Bachelorgraden/BA erhvervsprog (Bachelor of Arts in Languages for Special Purposes): Awarded after 3 years of fulltime study in 2 foreign languages specializing in commercial subjects and culture.

Candidatus/a linguae mercantilis/Cand.ling.merc. (Candidate in Business and Language): Awarded after additional 3 years of study, specializing in one language for commercial purposes, business subjects, and culture. *Erhvervsproglig Korrespondent* is required for admission.

Erhvervsproglig diplomprøve/ED (Commercial Language Diploma): A 2-year part-time study, requiring *Erhvervsproglig Korrespondent* or other tertiary level studies for admission. Study is intensive in one language (English, French, German, Spanish, or Russian).

Licentiat linguae mercantilis/Lic.ling.merc. (Licentiate in Business and Language): Requires a minimum of 3 years of additional study and is comprised of coursework and a publicly defended dissertation. Requires a minimum of 3 years of additional study and comprises course work and a publicly defended dissertation. *Cand.ling.merc.* is required for admission. In the Danish system of education, this is legally comparable to a Ph.D. in comprehensive universities.

Doctor linguae mercantilis/Dr.ling.merc. (Doctor in Business and Language): Awarded after an academic evaluation by specialists and a public defense of a scholarly thesis, often as a result of many years of independent research and publication.

Faculty of Business Administration:

Handelshøjskolens Afgangseksamen/HA (Business School Diploma): Awarded, after 3 years of study, in several specializations: economics and business administration, *HA-jur.*, *HJ* in business administration and law, *HAi* combining business administration and computer sciences, and *HA (int.)* combining business administration with foreign languages. (Abbreviations as listed here will appear on the transcript.)

Candidatus/a mercanturæ/Cand.merc. (Candidate in Business Administration): Awarded after 2 additional years of study. *HA*, *HAi*, *HA (int.)*, or *HA (jur.)* required for admission. The faculty has designed a new *Cand.merc.* program consisting of 12 special sections. Ten sections are

based on the *HA* degree, one leading to the *Cand.merc.aud.* degree (chartered accountant). The remaining 2 are based on the *HA (jur.)* degree and the *HA (int.)* degree, respectively, and lead to the *Cand.merc.jur.* (Candidate in Business Administration and Law) and the *Cand.merc.int.* (Candidate in International Business Administration and Modern Languages) degrees. The 12 specializations include management sciences, finance and accounting, informatics, accounting and controlling, strategic management, marketing, quality management, international management, economics and business administration, auditing, international business, and administration and languages.

Licentiat mercanturæ/Lic.merc. (Licentiate in Business Administration): Legally comparable to Ph.D in comprehensive universities. Requires a minimum of 3 years of additional study and course work and a publicly defended dissertation. *Cand.merc.* is required for admission.

Ph.D.-graden (Ph.D.): Requires a minimum of 2 years of additional study and coursework and a publicly defended dissertation. A candidate degree is required for admission.

Doctor mercanturæ/Dr.merc. (Doctor of Business Administration): Awarded after an academic evaluation by specialists and public defense of scholarly thesis, often the result of many years of independent research and publication.

Erhvervsøkonomiske Diplomprøve/HD (Business Economics Diploma; sometimes translated as Diploma in Business Administration): Awarded after 4 years of part-time study. Part I includes 2 years of part-time study in basic economic disciplines (business economics, macroeconomics, statistics, commercial law, and descriptive economics). Part II includes 2 further years of part-time study in a specialized area such as financial management and accounting, business logistics, etc. Program originally designed for practitioners. Part I now requires completion of an upper secondary school leaving certificate, or at least a 3-year apprenticeship after grade 9 or 10. To enter Part II of the program, applicants must have Part I, the *HA*, or an equivalent. It was designed as a stand-alone program within the educational system.

• **Research:** A Center for Computational Linguistics was formed in 1986. This research center enables the faculty to carry out research in linguistics, build databases, and study and perform research in lexicography, terminology, discourse analysis, etc. The main emphasis is

on research in and teaching of languages for special purposes.

The Language Faculty and the Business Faculty are all involved in research. One fertile area for both is international trade and marketing, given the heavy emphasis on foreign languages as well as business administration.

Handelshøjskolen i København/HHK (Copenhagen Business School), Struenseegade 7-9, DK-2200 København N, Denmark. Phone: +45 38 15 38 15, Fax: +45 38 15 20 15

Est. 1917. Integrated into system of higher education in 1965. Public institution, but self-governing, with members of the Society for the Advancement of Business Study (*FUHU*) on the advisory board.

- **Staff:** 312 fulltime/800 part-time.
- **Enrollment:** (1992-1993) 16,500 (54% full-time/46% part-time; 85% of students are at undergraduate level or in part-time programs, 15% are at fulltime candidate study level, 100 Ph.D. students).
- **Admission:** For 1993, the following upper secondary examination grade averages were required for admission to the specific area:

General Business Administration/HA	8.0
Business Admin.-Computer Sciences	8.4
Business Admin.-Commercial Law	8.9
BusinessAdmin.-Languages/HA-lang.	9.8
Business Admin.-Management	8.2
<i>Korrespondent</i> Course in Ger.-Fr.	8.0
English-Spanish	8.5
English-Italian	8.1
- Other fields were unrestricted.
- **Organization:** Faculty of Economics and Business Administration includes Center for Innovation & Entrepreneurship, Center for Public Organization & Management, Institute for Computer and Systems Sciences, Institute of Economics, Institute of Finance, Institute of Financial Management Accounting, Institute of Industrial Research & Social Development, Institute of Informatics & Management Accounting, Institute of International Economics & Management, Institute of Organization & Industrial Sociology, Institute of Transportation, Tourism & Regional Economics, Institute of Theoretical Statistics, Law Department, Management Research Institute, and Marketing Institute.

Faculty of Modern Languages includes Departments of and Centers for Computational Linguistics, Conference Interpretation, English, French (with Italian and Russian sections), German, Spanish, LSP, Sign Language

Interpretation, and Terminology. The faculty also runs the Training Center for Social and Medical Interpretation and the Language Library. The institution also has a Center for International Business Administration and Modern Languages, that is a joint faculty center.

Credentials Awarded:

Erhvervssproglig Korrespondent (Commercial Language Correspondent): A 3-year part-time (equals 1.5-year, fulltime) program in 1 foreign language that leads to a bilingual secretarial diploma in language for business purposes. The course requires 18 modules for completion and includes language economics, law, and a database module. Graduates may continue studies in the *Erhvervssproglige diplom/ED* program.

Erhvervssproglig Korrespondent (Commercial Language Correspondent): A 2.5- to 3-year fulltime program in specialized languages for business assistants in two languages (English, French, German, Italian, Russian, and Spanish). (This program became a 3-year program in 1993, terminating with a *Bachelorgraden/B.ling.merc.* in 1996.) Program concentrates on translation; limited opportunity to gain oral proficiency. Program may be completed on part-time basis as well. Graduates may continue in the *ED* program or the *cand.ling.merc.* program at the institution, but are not eligible for transfer credit in university programs.

Erhvervssproglig diplomprøve/ED (Commercial Language Diploma): 2-year part-time study, requiring *Korrespondent* or other tertiary level studies for admission. Study is intensive in one language (English, French, German, Italian, Spanish, or Russian).

Handelshøjskolens Afgangseksamen/HA (Business School Diploma, also known as *Den almene erhvervsøkonomiske uddannelse*, general education in business economics): First degree in economics and business administration. Program includes study in economics and business economics, and electives. Degree is awarded after 3 years of study. Graduates may continue study in the *cand.merc.*, the *cand.merc.aud.* or the *HD* programs (Part II).

Handelshøjskolens Afgangseksamen i datalogi/HA-dat. (Business School Diploma-Computer Sciences, also known as *den almene erhvervsøkonomi-datalogi* (General Education in Business Economics-Computer Sciences): First degree in business administration and computer sciences awarded after 3 years. Graduates may

continue their studies in the *cand.merc.dat.*, *cand.merc.*, *cand.-merc.aud.*, and *HD* (part II) programs.

Handelshøjskolens Afgangseksamen i juris/HA-jur. (Business School Diploma Law, also known as *den almene erhvervsøkonomi-jur.*, General Education in Business Economics-Law: First degree in business administration and commercial law, awarded after 3 years. Graduates may continue studies in *cand.merc.jur.*, *cand.merc.*, *cand.merc.-aud.*, and *HD* (Part II) programs.

Handelshøjskolens Afgangseksamen i matematik/HA-mat. (Business School Diploma-Management, also known as *den almene erhvervsøkonomi mat.*, General Education in Business Economics-Management): First degree in business administration and management sciences (mathematical economics) awarded after 3 years of study. Graduates may continue studies in the *cand.merc.mat.*, *cand.merc.*, *cand.merc.aud.*, and *HD* (Part II) programs.

Erhvervsøkonomisk/Sproglig Afgangseksamen/ ESA (Business Economics and Foreign Language Diploma in International Business Administration and Modern Languages): First degree in the field of business administration and language studies awarded after 3 years of study. Program includes studies in international business economics, comparative societal analysis, English, a second foreign language, and communication. Graduates may continue studies in the *cand.merc.int.*, *cand.-merc.* program at this institution or the *HD* program (Part II). Since 1992, a Japanese version of the program has also been offered.

Handelshøjskolens Diplomeksamen/HD (Business School Diploma): Awarded after 4 years of part-time study. Part I includes 2 years of part-time study in basic economic disciplines (business economics, macroeconomics, statistics, commercial law, and descriptive economics). Part II includes 2 further years of part-time study in specialization in one of the following fields: financial and management accounting; finance and credit; information and management accounting; international management and economics; business logistics; or marketing management and organization. The program was originally developed for experienced practitioners. Presently graduates from upper secondary school programs are also being admitted directly. Admission requires upper secondary leaving certificate, or completion of grade 9 and an apprenticeship of at least 3 years. All applicants must also have passed examinations in accounting/operations

economics at the minimum *HH* level, mathematics at the *HH* level 3, English at the *HH* level 4, and social studies and Danish at the *HF* standard level. Admission requirement to enter directly into Part II of the program is the *HA*, *HA(dat.)*, *HA(jur.)*, or *HA(mat)*. Holders of the degree may enter the *cand.merc.* program at this institution, but are not qualified to enter other university programs.

Candidatus/a mercanturae/Cand.merc. (Candidate in Business Administration): Degree in Economics and Business Administration awarded after an additional 2 years of study beyond the *HA* or its specialized programs, e.g. *HA (jur.)*, total 5 years. Since 1992 this program has offered a number of lines of specialization, such as finance and accounting, management accounting, human resource management, strategy, organization and management, economic marketing, corporate design, management of technology, international marketing, and management and international business. The last two lines of specialization are taught in English.

Candidatus/a mercanturae et auditoris/Cand.merc. aud. (Candidate in Business Administration and Auditing): Awarded after an additional 2-year program beyond the *HA*, total 5 years. To qualify as a licensed auditor, graduates must complete 3 years of practical experience with an authorized accountant and pass the national examination set by the Auditors Union.

Candidatus/a mercanturae dat./Cand.merc.(dat.) (Candidate in Business Administration and Computer Sciences): Awarded after additional 2-year program beyond the *HA(dat)*.

Candidatus/a mercanturae juris/Cand.merc.(jur.) (Candidate in Business Administration and Commercial Law): Awarded after 2 additional years beyond the *HA(jur)*.

Candidatus/a mercanturae mat./Cand.merc.(mat). (Candidate in Business Administration and Management Sciences): Awarded after 2 additional years of study beyond the *HA*.

Candidatus/a linguae mercantis/Cand.ling.merc. (Candidate in Business and Language [English, French, German, Italian, Russian, Spanish], or in Computational Linguistics): Awarded after 3 additional years of study beyond the *Erhvervsproglig korrespondent* degree for total of 5.5 to 6 years of study. Program being reduced to a total of 5 years. Emphasis is on training as a translator. Language for special purposes (LSP) pedagogy used. Holder is qualified as a *Beskikkelse som translator* (Sworn Interpreter). Graduates may continue to the *Ph.D.* pro-

grams (formerly the *Lic.ling.merc.* or the *dr.ling.merc.*) but not transfer into university programs in other fields.

Candidatus/a mercatoris int./Cand.merc.int. (Candidate in International Business Administration and Modern Languages): This is a 2-year degree beyond the ESA offered in international business administration and modern languages, for a total of 5 years. It includes work in English, a second foreign language, international law, the field of specialization (development studies and intercultural business strategy, intercultural management, or Europe: culture, integration and business strategy). A dissertation is required, as is the case for all *candidatus* degrees.

Konferencetolk (Conference interpreter): Awarded upon completion of a 6 month fulltime course. Requires an academic degree at *candidatus* level for admission and one of the European Community (EC) languages as a mother tongue. Graduates are trained in simultaneous and consecutive interpretation from two foreign languages into the mother tongue as well as in consecutive interpretation into one foreign language. The course is sponsored by the EC Commission. Graduates receive Danish government authorization to serve as translator and interpreter.

Licentiat mercatorum/lic.merc. or **Licentiat linguae mercatorum/lic.ling.merc.** (Licentiat Degree in Business Administration or Licentiat degree in Business Languages). Advanced degree beyond the candidate degrees, requiring 3 additional years of study and preparation of a dissertation, examined and defended publicly.

Ph.D.: Admission requires submission of project to be carried out under auspices of a sponsoring professor. The appropriate study board reviews the proposal and decides what course work will be required. There is also a qualifying examination, a public lecture on a topic to be assigned one week in advance, and defense of a dissertation. The Ph.D. is awarded in two fields.

Doctor mercatorum/dr.merc. (Doctoral Degree in Business Administration): This credential is awarded after an academic evaluation by specialists and public defense of a scholarly thesis, often the result of many years of independent research and publication.

Doctor linguae mercatorum/dr.ling.merc. (Doctoral Degree in Business and Language): Requires 3 years of study beyond the *cand.ling.merc.*

• **Special Studies Degrees:**

CEMS Master: Awarded by the Community of

European Management Schools. Holders must have a national master's degree in business administration (*cand.merc.*), specific knowledge in international business administration and management with a European emphasis, fluency in three languages, two of which must be European, and international experience within a university and a company.

• **Special Programs:**

Advanced Program in International Management (APIM): Limited 1-semester program offered to Danish and U.S. graduate students from several American business schools (Brandeis University, Duke University, Kellogg Graduate School of Management, New York University, Oregon State University, Rensselaer School of Management, University of South Carolina, University of Texas at Austin, and the University of Washington).

Member of SCANCOR (Scandinavian Consortium for Organizational Research), a cooperative program established between a number of Scandinavian Business Schools and Stanford Graduate School of Business.

Handelshøjskole Syd/HHS (The Southern Business School), Grundtvigs Allé 150, DK-6400, Sønderborg, Denmark. Phone: +45 74 43 42 25, Fax: +45 74 43 01 92. Affiliated schools in Esbjerg, Kolding, Sønderborg, Varde in Denmark and Flensburg in Germany. The International Office is in Sønderborg. Est. 1984.

- **Staff:** 100 fulltime/200 part-time/65 admin.
- **Enrollment:** (1992) 3,200 fulltime students.
- **Organization:** Management and Business Administration and Modern Languages, with various degrees offered at individual campuses. The *HA* in Business Administration is offered at Esbjerg and Sønderborg; the *HA (HA-jur.)* with a minor in Business Law and a minor in Business Analysis are offered at Kolding; an *HA* with a minor in Commercial English is offered at Kolding, Sønderborg, and Esbjerg.
- **Transcripts:** Abbreviations of the degrees are often what actually appear on transcripts and diplomas. For example, a diploma will indicate an *HA* and not spell out the whole title.

Credentials Awarded:

Erhvervssproglig Korrespondent (Commercial Language Correspondent): Awarded after 2 to 2.5 years (except in Spanish, 3 years) in bilingual secretarial work. Content can be one or two languages or languages for special purposes. Part-time programs in English, French, German, and Spanish are offered in Esbjerg,

Kolding, and Sønderborg. Fulltime programs are offered in Kolding, Sønderborg, and Varde. There is also a one language *Erhvervsproglig Korrespondent* course offered that takes 2 to 2.5 years to complete.

Erhvervsprogligt diplomprøve/ED (Commercial Language Diploma): Awarded after 2 years of part-time study, requiring the *Erhvervsproglig Korrespondent* or other tertiary level diploma (HA or BA) for admission. Study is intensive in one language and business courses. Designed to be a stand-alone course of study.

Handelshøjskolens Afgangseksamen/HA (Business School Diploma): First degree in business administration awarded after 3 years of study. Programs include study of business, economics, and business economics, and electives. *HA (int.)* is also offered combining business administration and foreign languages and culture. Graduates may continue on to *Cand.-merc.*

Candidatus/a mercaturae/Cand.merc. (Candidate of Business Administration): Awarded after 2 additional years of study of business administration. *HA* is a requirement for admission. A *cand.merc. -International afsætning* degree program is offered in International Marketing. A *cand.merc. -Styring og ledelse* degree program is offered in Marketing.

Candidatus/a mercaturae et auditoris/Cand.merc.aud. (Candidate of Business Administration and Auditing): Credential awarded after 2 additional years of study of business administration and data linguistics. *HA* a requirement for admission.

Licentiat mercaturae/Lic.merc. (Licentiate of Business Administration): An advanced degree beyond the candidate degree, requiring 3 additional years of study, and preparation and defense of a dissertation (first *Lic.merc.* was awarded in 1990).

Handelsvidenskabelig Diplomeksamen/HD (Commercial Sciences Diploma): The Commercial Science diploma is awarded after 4 years of part-time study. Part I includes 2 years of part-time study in basic economic disciplines (business economics, commercial law, macroeconomics, statistics, etc.). Part II includes 2 further years of part-time study such as financial management and accounting, business logistics, etc. The program was originally designed for practitioners. Part I now requires completion of an apprenticeship of at least 3 years, or completion of an upper secondary school examination. To enter Part II, applicants need the *HA* or equivalent. It was designed as a stand-alone within the educational program.

- **Research:** Research efforts are concentrated in Kolding and Sønderborg, with Kolding the center for research in business economics, accounting, auditing, and tax law. Business language research is performed at Kolding, and includes data linguistics terminology, knowledge engineering, and knowledge transfer. Sønderborg houses research concerning international marketing and management.

Handelshøjskole i Syd affiliated campuses are:

Eshjerg: Niels Bohrs Vej 10, DK-6700 Eshjerg, Denmark. Phone: +45 75 45 06 11, Fax: +45 75 45 96 37

Flensburg: PH Flensburg, Betriebliche Bildung und Management, Bauabschnitt 5, Kanzleistrasse 91-93, 24943 Flensburg, Germany. Phone: +49 461 31 300, Fax: +49 461 14 57 200

Kolding: Engstien 1, DK-6000 Kolding, Denmark. Phone: +45 75 52 20 99, Fax: +45 75 50 64 50

Varde: Østervang 2, DK-6800, Varde, Denmark. Phone: +45 75 22 25 11, Fax: +45 75 21 06 35

(See the institutional profiles for Aalborg University, Odense University, and Roskilde University for other business education programs.)

Drama

Training in acting is offered in theater schools in Denmark. The program is 4 years in duration and leads to the title of *Skuespiller* (Actor). Demonstrated artistic talent is the main entrance criteria. Training is offered in the following institutions:

Statens Teaterskole (National Theater School), Holger Danskesvej 28-30, 2000 Frederiksberg, Denmark. Phone: +45 31 86 63 12

Skuespillerskolen ved Aarhus Teater (Actors School of Aarhus Theater), Skolegade 9, 8000 Århus C, Denmark. Phone: +45 86 12 63 99

Skuespillerskolen ved Odense Teater (Actors School of Odense Theater), Roersvej 33, 5000 Odense C., Denmark. Phone: +45 66 13 21 09, ext. 14 and 19

Engineering

Postsecondary engineering training is offered in Technical Colleges (*Teknika*), The Engineering Academy of Denmark (*Danmarks Ingeniørakademi/DIA*), Aalborg University (*Aalborg Universitetscenter/AUC*), and The Technical University of Denmark (*Danmarks Tekniske Universitet*, formerly *Danmarks Tekniske Højskole/DTH*). The tertiary level engineering degrees offered are: Academy Engineer (*Akademiingeniør*), Technical Engineer (*Teknikumingeniør*) with field of study, (such as Mechanical Engineer (*Maskeingeniør*); Export Engineer (*Eksportingeniør*), and Civil Engineer (*Civilingeniør*). The term "civil" here refers to the civilian section of society, not to the study of civil engineering only. The degrees of *Ph.D.* and *dr.techn.* are also awarded in engineering.

In May 1993 the Ministry of Education decided that beginning in the fall of 1993 the Academy Engineer and the Technical College Engineer programs would be merged and a 3.5-year program including a half year of engineering practical training with salary would be offered leading to the title of *Diplomingeniør* (Diploma Engineer). The *Teknika*, the Engineering Academy of Denmark, and Aalborg University offer the new program.

Teknikumingeniør (Technical Engineer): Education leading to *Teknikumingeniør*, referred to in Danish publications as the Bachelor of Science in Engineering, is offered at the nine state-recognized engineering colleges *Teknika* or *Ingeniørhøjskoler* (see Appendix B for names, addresses and specializations). The aim of Technical College programs is to provide an education that will enable graduates to utilize research results within science and technology in their engineering profession.

Admission requires one of the following: the *Studentereksamen* (Upper Secondary School Leaving Certificate) in the mathematics line; the *Højere forberedelseksamen/HF* with optional mathematics and physics; the *Studentereksamen* in the languages line and the *HF* with optional mathematics and physics; completion of a basic course in mathematical subjects; the *Højere teknisk eksamen/HTX* with 6 months of relevant work; the *Gymnasialt indslutningskursus for flygtninge/GIF* in mathematics and physics; or the Engineering College entrance examination, together with relevant practical training.

All applicants must have had a certain amount of practical training prior to enrollment, or complete this training during the period of study. Students who have had 10 years of schooling and a minimum of 2 years of practical training can enroll in a 1-year preparatory course (mathematics, phys-

ics, chemistry, history, Danish, English, and German), that is concluded with the Technical College entrance examination (*Adgangseksamen*). If they pass the examination, they are admitted to the *Teknikumingeniør* program without further practical training.

The Technical Colleges offer study in the fields of civil and construction engineering, electrical engineering, electronic engineering, mechanical engineering, production engineering, naval architecture, and chemical engineering. They also offer export engineering (see section below). The mandatory practical training (1 year) and the program of theoretical study requires a total of 4 years. The curriculum is based on state regulations. The theoretical study is composed of 48 modules, 8 per term, each module 120 hours. The first year is spent in practical aspects (either prior to enrollment or in a workshop at the Technical College), so that there is a basis for the theoretical education offered in the next 3 years. The first term of the theoretical study in the basic course of 8 modules is common to all branches and includes mathematics, physics, environmental studies, economics, computer science, and graphic communication. This is followed by specialized study of 40 modules, that are distributed among core subjects (obligatory engineering subjects characteristic of the special fields of engineering), optional subjects, project subjects, and non-technical subjects and 3-5 modules devoted to a final project. About one-third of the curriculum consists of construction exercises, laboratory work, field studies, computer sciences, and interdisciplinary projects. The program combines theoretical studies and group projects and requires a thesis prepared individually or in small groups. Students select the branch of specialization and the degree gives a specific title for the area of studies. For example, a Mechanical Engineer will be given the title *Maskeingeniør*.

Approximately 6,000 students are currently pursuing these engineering programs. The Engineering Colleges have international links, e.g., with the German *Fachhochschulen* and the UK Polytechnics (now Universities). They also participate in ERASMUS (European student mobility) programs. Some double diplomas are offered with other European institutions. The final diploma includes an insert giving the study record taken at the other institution.

Teknika graduates are classified by the European Federation of National Engineering Association/ FEANI in "group 1" of the European Register that entitles them to use the designation European Engineer/EUR.ING. after a minimum of 3 years of approved engineering experience. The Eu-

ropean Engineer corresponds to the British Chartered Engineer.

Holders of *Teknikumingeniør* degrees qualify for admission to the *Civilingeniør* programs at Aalborg University (where it will take 2 additional years to complete) or to the Danish Technical University (where it will take 2.5 to 3 years to complete). *Kemiingeniør* graduates may continue studies for the *cand.scient.* in Chemistry at Odense University and complete the program in 2 additional years.

Eksportingeniør (Export Engineer): The export engineer program was introduced in the late 1980s as an experimental program. The first students received their degrees in 1990. The degree program is offered at Copenhagen Teknika and Horsens Teknika and at Aalborg University. The aim of the program is to enable graduates to integrate results from engineering sciences, technology, foreign languages, economics, and international marketing. At the Teknika, the export engineer study is a 5-year program, based on a modular structure. Each year is divided into 2 terms of 8 modules each. Admission requires one of the following: the *Studentereksamen* (academic upper secondary) languages line with high level English; *HH* with level IV English and French or German at level IV, and mathematics at level II; *HF* with optional English, French, or German.

The program begins with 6 months of instruction in mathematics, physics, and chemistry (13 modules) corresponding to the upper secondary level, and 1 year of practical training in workshop courses in machinery and electronics including basic analog electronics, basic digital electronics, and microprocessors (8 modules). Further studies of environmental sciences (2 modules) and electronic data processing (2 modules) are covered in the first 2 years. After the first 2 years, that provide the necessary basics to undertake engineering studies, the program combines technology, economics, marketing, and foreign languages: mathematics and statistics (3 modules); material sciences, stress & strength, machine elements (3 modules); integrated product development, that includes production, product development, and marketing economics (2 modules); quality control and management (1 module); process control and feedback systems (2 modules); CAD, CAM, and CIM (1 module); mechnronics (1 module); electronics and microprocessors including data communications and computer networks (11 modules); communication and foreign languages (2 foreign languages: English-business negotiation and communication [4 modules] and one other language, French, Spanish, or German (6 modules); economics and marketing (4 modules); marketing

economics and logistics (2 modules); international marketing (1 module); and export marketing, market analysis, financing and risk assessment, and international business law (2 modules). This period of study is followed by an engineer trainee period (8 modules), and the program is completed with a final project (4 modules).

The export engineering programs at the *Teknika* are offered in conjunction with a nearby Business School. For example, the *Copenhagen Teknikum* operates in conjunction with the Copenhagen Business School and the final degree is signed by both institutions.

At Aalborg University, standard university admission requirements prevail with a supplementary requirement of English at the A level. The *Eksportingeniør* program requires 3.5 years: 1 year of basic studies in technical subjects and the natural sciences and languages, followed by 2.5 years of study in technology, language, and economics. Students with insufficient preparation in mathematics and physics must enroll in a special 1-year supplementary course to bring them to the *Studentereksamen* high level mathematics and to Level B in physics.

Akademiingeniør (Academy Engineer): The degree program is offered at two institutions: Aalborg University and *Danmarks Ingeniørakademi/DIA* (Engineering Academy of Denmark). This degree is referred to in Danish publications as the B.S. in Engineering. A description of the programs at each institution follows.

Aalborg University offers a 3.5-year program leading to the *Akademiingeniør* degree in the fields of surveying and planning, civil engineering, building technology, mechanical engineering, information technology, and energy technology. The program begins with a basic year, offering technical subjects and natural sciences. Students choose their specialization following the first year. After 6 semesters, students can either opt to take the *Akademiingeniør* with 1 more semester of study or continue to the *Civilingeniør* degree, requiring 4 more semesters.

Danmarks Ingeniørakademi/DIA (Engineering Academy of Denmark), Building 101, DK-2800 Lyngby, Denmark. Phone: +45 42 88 22 22, Fax: +45 45 93 15 77

Est. 1957 to meet the need for more trained engineers. Presently operates in connection with the Technical University of Denmark. The institutions have the same Rector and a common administration. DIA operates under the authority of parliament and the Ministry of Education, but has a Board from industry that is active in guiding in-

stitutional policy. The Academy was established to provide an academic education that would give students theoretical and practical knowledge and enable graduates to practice as professional engineers in design, development, consulting, and supervision.

- **Staff:** 161 fulltime faculty. Qualifications for faculty members are the same as at *DTH*.
- **Enrollment:** (1992) 2,100.
- **Admission:** Upper Secondary Leaving Certificate with Level A in Mathematics, Level A in Physics, and Level B in Chemistry (the same qualifications as for admission to *DTH*). Admission is open to all students with the appropriate prerequisites.
- **Organization:** Departments of Civil Engineering (building and construction), Electrical Engineering, Mechanical and Production Engineering, and Chemical Engineering (including food sciences). Students may take courses at either *DIA* or *DTH*. Laboratory facilities are shared with *DTH*.
- **Program Structure:** The *Akademiingeniør* (Academy Engineer) degree program at *DIA* requires 3.5 years of study. The period of study includes 1 term (or the equivalent spread out over the period of study) in practical training in industry. The program is constructed of modular course units, with each 1-semester module giving 6 points of credit. One point corresponds to a working load of approximately 21 hours. Seven modular courses per semester (46 points per semester; 92 per year) is the normal course load and 300 points are required to graduate. Graduates may continue studies at the Danish Technical University or at Aalborg University and will require 2 years (120 more points) to complete the *Civilingeniør* degree. The Academy translates the title on documents as "Bachelor of Science in Engineering." Following is a sample curriculum in Mechanical Engineering with a concentration in Product Development and Energy Techniques:

Term 1	Points
Linear Algebra	6
Computer Sciences I	6
Mechanics I	6
Strength of Materials I	6
Engineering Materials I	6
Introductory Course and Production Techniques I	6
Practical Workshop Training	6
Total Points	42

Term 2	
Mathematical Analysis	6
Mechanics II	6
Strength of Materials II	6
Engineering Materials II	6
Machine Components I	6
Drafting	6
Strength of Materials III	4
Total Points	40

Term 3	
Mathematical Analysis II	6
Thermodynamics	6
Machine Components II	6
Fundamentals of Mechanical Engineering Design	6
Production Technique	12
Electronic Engineering I	6
Acoustics	2
Total Points	44

Term 4	
Statistics	6
Computer Sciences II	3
Fundamentals of Heat Transfer	6
Fluid Mechanics	3
Mechanical Engineering Design or Electronic Engineering II	6
Production Economy and Production Control	12
Environmental Sciences	2
Total Points	44

Term 5	
Industrial Practice	
Total Points	43

Terms 6 and 7	
CAE	6
Heat Transfer	6
Control Theory	6
Electronics	6
Microcomputer Techniques	6
Measuring Techniques	6
Product Development	12
4 Optional Courses	24
Preparatory thesis work	6
Final thesis work	20
Total Points	98

Grading Scale: 13 to 00, with 13 the highest mark, 6 the lowest passing mark. In up to 3 examinations (36 points), the mark of 5 will be accepted provided that the total average is not less than 6.

Civilingeniør

Studies leading to the *Civilingeniør* degree are offered at two institutions: Aalborg University and *Danmarks Tekniske Universitet* (The Technical University of Denmark). The diploma will also show a

cand.polyt. degree as well as the *Civilingeniør* title. Studies require 5 years, including work done for the *Akademiingeniør*, and lead to the professional degree of *Civilingeniør*.

At Aalborg, the following specializations are offered: biotechnology, communication technology, computer engineering, control engineering, energy technology, environmental engineering, fisheries technology, indoor environmental engineering, industrial production and management, international technological planning, international technological management, machine design, medical informatics and image analysis, optical engineering, planning and structural engineering. The program begins with a 1-year basic course in technology and natural sciences. Following this students select specializations from programs offered for the *Akademiingeniør* degree. After 2 years of study students select the *Civilingeniør* specialization.

At DTH, chemical engineering, electrical engineering, civil engineering, and mechanical engineering are offered. DTH also offers Food Engineering in cooperation with the Royal Veterinary and Agricultural University. Admission requires advanced upper secondary level studies in mathematics, physics, and chemistry. The program is based on a modular structure. Students are expected to pass 5 courses per semester. There is a common first semester, following that students compose their own study programs. Seven courses in mathematics and physics are compulsory for all programs. In addition to compulsory course work, a thesis on a major design project or a minor research and development project is required.

Danmarks Tekniske Universitet (The Technical University of Denmark), Building 101, DK-2800 Lyngby, Denmark. Phone: +45 42 88 22 22, Fax: +45 42 88 22 39

Est. 1829. Main center for engineering education in Denmark. Original name: *Den Polytekniske Læreanstalt*. Previously located in Copenhagen. Transferred to new campus at Lyngby beginning 1962. Institution has been known as *Danmarks Tekniske Højskole/DTH* for many years. In April 1994, the institution's name was officially changed to *Danmarks Tekniske Universitet*. It now occupies 260 acres with 60 institutes situated in 80 buildings. Academic year September-June; two terms, in each term 14 weeks of lecture, 2.5 weeks of exams, followed by 3-week period for full-day activity, e.g. lab work, design work, etc.

- **Staff:** 1,250.
- **Enrollment:** (1992) 5,700.
- **Admission:** A minimum score of 7 is required in physics and math on the upper secondary

school exams. *Teknikumingeniør* are required to complete 3 additional years for the *Civilingeniør*. *Akademiingeniør* from *Danmarks Ingeniørakademi/DIA* are able to complete the *Civilingeniør* degree in 2 additional years.

- **Organization:** There are five major departments within which are many laboratories and institutes: some teaching units, others research units.

Basic Sciences: Mathematical Institute, Institute for Numerical Analysis, Laboratory of Applied Mathematical Physics, Department of Mathematical Statistics and Operations Research, Physics Laboratory I, Physics Laboratory III, Laboratory of Applied Physics, Department of Structural Properties of Materials.

Chemical Engineering: Chemistry Department A, Chemistry Department B, Institute of Physical Chemistry, Department of Organic Chemistry, Department of Microbiology, Department of Biochemistry and Nutrition, Laboratory of Environmental Sciences and Ecology, Department of Biotechnology, Institute of Mineral Industry, Department of Chemical Engineering.

Electrical Engineering: Department of Electrophysics, Electronic Institute, Department of Computer Sciences, Center of Microelectronics, Laboratory of Industrial Electronics, Institute of Circuit Theory and Telecommunication, Servolaboratory, Acoustic Laboratory, Electric Power Engineering Department.

Civil Engineering: Institute for Applied Geology, Institute of Hydrodynamics and Hydraulic Engineering, Department of Structural Engineering, Department of Environmental Engineering, Thermal Insulation Laboratory, Institute of Roads, Transport and Town Planning.

Mechanical Engineering: Department of Fluid Mechanics, Laboratory for Energetics, Laboratory of Heating and Air Conditioning, Refrigeration Laboratory, Department of Ocean Engineering, Institute of Manufacturing Engineering, Control Engineering Institute.

Other subjects are taught through the Institute of Social Sciences, the Institute for Technological Development and Working Conditions, and the Department of Technical Drawing.

- **Program Structure:** The *civilingeniør* degree has a structured 5-year duration. A module system is applied and students are expected to pass five courses per semester in order to finish their studies in 5 years. There is a common first semester, and a possible common second semester. Each student must enroll in design

nated classes and be assessed and pass each individual class. There is a credit point system and there are optional course choices depending on student interest and capability. At the end of the study the student must perform thesis work on a major design project or a minor research and development project. To get 6 credit points (CPs), a normal course, the student is expected to work 9-10 hours per week during the 14 week period, including scheduled hours and homework. To obtain the *civilingeniør* degree, 330 CPs must be obtained, including 30 CPs for thesis work.

- **Grading:** 13 to 00, with 13 the highest and 6 is passing. Unlike other Danish institutions, the DTH does use the 13 as a perfect grade; if all the answers on an examination are correct a 13 is awarded. A complete transcript, indicating graduation, will not show failures. However, transcripts are issued for partial completion and indicate failed courses.

Credentials Awarded:

Civilingeniør/ cand.polyt (Civilian Engineer): Awarded with special designations in Electrical, Mechanical, Chemical, or Civil Engineering, after 5 years of study meeting specific requirements.

Licentiatus Technicus/lic.techn. (Technical Licentiate): 2.5 to 3 years of study after *Civilingeniør* degree. Candidate must carry out a research project, write a thesis and defend it in an oral examination. Assessment is made by committee. This degree formally discontinued in 1988.

Ph.D.: 3 years beyond the *Civilingeniør*. A 9.0 on the *Civilingeniør* is required for admission. The structured *Ph.D.* began in 1992.

Doctor Technicus/dr.techn. (Doctor of Technology): Awarded after an academic evaluation by specialists and public defense of a scholarly thesis, often the result of years of independent research and publication.

English-speaking students who are enrolled in degree courses in their home country may be accepted for master thesis projects, for some specialized courses, and for doctoral studies.

Film

Den Danske Filmskole (The National Danish Film School), Søndervoldstræde 4, 1419 København K, Denmark. Phone: +45 31 57 65 00, Fax: +45 31 57 65 10

A nationally supported school for the education of professionals in the fields of film, television, and video production. The school offers 4-year programs in photography, directing, cutting/editing,

sound recording/editing, and production that lead to qualifications in each field. There are no educational or occupational requirements for admission. Mature applicants are accepted with a broad base of knowledge and some relevant background. The application requires that the students include two "works" of their own. Therefore some prior knowledge in the area of film is obviously required. It is a very small school with only 4 to 6 applicants admitted each year to each course of study.

During the first semester all majors are integrated and students take a general introduction to film language and film production, through such courses as drama, script writing, and picture and sound as a means of expression, as well as several more technical subjects. In this way students achieve a common background on that to base their education, after which they move on to the major subject areas. Courses are theoretical and practical, and often include projects/production. Two exercises in film or video per term are normal. Throughout the education program there are joint courses on more general subjects such as film theory and history, music, picture knowledge, philosophy, modern literature, and art. Courses are compulsory, the curriculum is structured, and class attendance is mandatory. Practicums occur in the summer. Students are eligible for national stipends. The School also offers a 1.5-year course in manuscript writing and a 2-year program in animation.

Journalism

Danmarks Journalisthøjskole (The Danish School of Journalism), Olof Palmes Allé 11, DK 8200, Aarhus N, Denmark. Phone: +45 86 16 11 22, Fax: +45 86 16 89 10

The only journalism education in Denmark. There are two basic courses: journalism and photojournalism. In journalism there are 105 new places each term, but in photojournalism there are only 20 new places per year, 10 each term. Twelve students are enrolled who specialize in print media and 8 specialize in television. The school has fully modernized computer laboratories with direct access to worldwide news services and links to newspaper offices in Denmark. There is a full media library and an extensive clipping service, and access to two full television studios.

- **Enrollment:** Approximately 850.
- **Admission:** There are no formal academic requirements for admission. Of the students, 87.5% have completed secondary school, and 70.6% have completed at least 1 year of university study. There is a 9-hour entrance examination that is offered once a year. In

1992, 1,400 applicants took the exam for the 220 places in the journalism program. The examination includes writing a report on a specific news event, writing a creative article, and a modified multiple choice exam on current world affairs and politics. The photo-journalism exam includes the same, and a photo-cropping and technology test.

- **Program Structure:** The programs at the school emphasize the link between application and theoretical knowledge. The 4-year program includes 18 months of practical training. The first study period is made up of three 6-month terms that provide a thorough grounding in the basics of journalism or photojournalism as well as contemporary society. Subjects include: journalistic reporting and writing, layout and visual communication, editing, diction, statistics, sociology and social research methods, European and international politics, media law, social studies, criminology, economics, business, and mass communication. Students then spend 18 months in practical training as salaried employees in the written news media, radio, television, or in public or private information positions. They must compete in finding the positions for themselves. The final 2 terms of the semester are spent in specialized study at the school and include preparation of a major project, such as a series of articles on one subject, a 25-minute television tape or a 30-minute radio program, or a photojournalism program. A research report has to be completed and the project is examined by an internal and an external examiner. An oral defense is included. There is a 95% completion rate. Students are awarded an *Eksamensbevis* (Diploma) with the title of either *Journalist* or *Billed-journalist* (photo-journalist). Marks for all courses are included on the Diploma.

Upon completion of the practical training period, journalism students have an option of studying for 2 years at *Den Danske Filmskole* (National Film School of Denmark) instead of completing 1 year at the Danish School for Journalism. At the end of the 2 years they are awarded 2 diplomas, *Eksamensbevis*, one from each of the institutions.

A special program, the European Diploma in International Journalism, is offered in conjunction with the School of Journalism and Communications in Utrecht, the Netherlands. It is a fulltime 1 calendar year program year taught in English. Admission is open to advanced students or young professionals with demonstrated interest in international reporting. Study begins in Utrecht with an

introduction to Dutch society followed by a 7-week period featuring lectures on European institutions and politics, philosophy, recent European history, community law, and international economy. The program includes two seminars on European current affairs and organizations. The second half of the program takes place at *Danmarks Journalist-højskole* and includes an introduction to Danish society and to the foreign policy of European states. This is followed by a 5-week project on European media development. Reporting assignments must be completed in various parts of Europe. Upon successful completion of a comprehensive examination students receive a "Diploma Europe and the World" from both the Danish School of Journalism and the School of Journalism and Communications in the Netherlands.

The school also runs further and continuing education courses in which approximately 600 students a year are enrolled. Three types of courses are offered. A half-year of fulltime study in communication leads to a *Eksamensbevis Tillægsuddannelsen* (Certificate of Supplementary Study). Admission requires completion of at least two-thirds of any academic postsecondary program.

Short duration enhancement courses are also offered. These are noncredit courses offered in conjunction with the Journalism Trade Union in Denmark.

Finally, a 1-year part-time course is offered in 8 subjects: foreign policy, cultural affairs, communication and public relations, economics, ecology, nature, science, and the environment. Applicants must be journalists with degrees. Upon completion, students are awarded the *Journalistisk Diplomeksamen/J* (Journalist Diploma).

Legal Studies

Legal Studies are offered at the University of Copenhagen and Aarhus University. The program of study is governed by ministerial order from the Ministry of Education.

- **Admission:** Applicants for 1992 were required to have an average on their upper secondary school leaving examination of at least 9.6 in order to be admitted to the *candidatus juris/cand.jur.* program at either of the universities. Holders of the *HA-juris* degree in business law and economics from a Business School are placed in the second year of the Basic Course. In addition, they have to pass tests of first year courses in family law, law of succession, and elements of public law. They may take these tests during the second and third years of the Basic Course after being admitted to the *cand.jur.* program.

Study for the degree of *cand.jur.* requires 5 years, including study for the *bachelorgraden* degree (also known as the Basic Course), that is obtained at the end of the third year of study after passing prescribed examinations. Courses for the *bachelorgraden* are compulsory and structured. The last 2 years of studies are divided into 12 study units and 8 of these are optional courses. A thesis is required. To become a practicing attorney requires 3 years of practical experience after the *cand.jur.* is awarded.

The curriculum includes: first year: basic studies in constitutional law, family law, succession, law and society and contracts and torts; second and third years: administrative law, private law, international law, EC law, civil procedure, criminal law and procedure, legal history, jurisprudence, and sociology of law; fourth and fifth years: taxation, economics, optional studies, and a thesis.

Library Studies

Danmarks Biblioteksskole (The Royal School of Librarianship), Birketinget 6, 2300 København S, Denmark. Phone: +45 31 58 60 66

Est. 1956, it is the only school offering library and information sciences. The main institution is in Copenhagen with a branch in Aalborg. It is a public institution under the jurisdiction of the Ministry of Cultural Affairs. The institution trains librarians, gives higher degrees in library and information sciences, offers continuing education courses, including education for research librarians and library assistants, has a unit for research and development, and also undertakes consultancy requests.

- **Staff:** 40 in Copenhagen/20 in Aalborg.
- **Admission:** Successful completion of upper secondary school. In 1991, the average mark required on the secondary school leaving exam to gain admission was 7.9. Approximately 140 new students are admitted each year in Copenhagen, and 60 are admitted in Aalborg.
- **Program Structure:** In order to become a Librarian (*Bibliotekar/D.B.*) students must complete a 4-year academic program that includes approximately a year of practical experience. This degree program is primarily theoretical and classroom based. The practical experience takes place over a 5-month period in the third semester, and the rest takes place as fieldwork consisting of short stays in various types of libraries in connection with course assignments during the other 7 semesters. The course of study includes culture and information in society and the place of libraries in this context, basic cataloguing and retrieval

systems, the history of culture and ideas, and acquisitions and materials provision, along with regular academic subjects such as finance and administration, information and communication theory, community information, information technology, fiction, literature, reference works and specialist literature, children's literature, etc. At the end of the program there is a Final Year Project. Students submit written assignments and are examined at the end of each term.

Credentials Awarded:

Bibliotekar/D.B. (Librarian): Awarded on successful completion of a 4-year program.

Candidatus/a scientiae bibliothecariae/cand.scient.bibl. (Candidate in Library Sciences): This is a 2-year diploma that requires the *Bibliotekar*, or another university degree and experience as a librarian for admission. Each year half of the places are taken by students who have just completed their *Bibliotekar* degree and half by librarians or others who meet the admission criteria. The degree was begun in 1990 and is offered as either a 2-year fulltime program or a 4-year part-time program. The first semester focuses on information sciences, while the second semester deals with information management and economics. The third semester is applied information science, with a thesis required in the fourth semester.

Forskningbibliotekar- og dokumentalist (Research librarian and documentalist) is a continuing education program that requires a specialized (by field) *Candidat* degree, and experience in a research library for admission. It is a 1-year part-time program with a new class of 15 students admitted every other year.

The basic degree will probably become known as a *bachelorgraden* in the near future. This 3-year program will be primarily theoretical and classroom based, and be followed by a 1-year program leading to the title of *Bibliotekar/D.B.*, Librarian, and a 2-year *candidatus* program.

The school also runs an extensive range of courses throughout Denmark ranging in duration from 1 day to 18 weeks. Approximately 5,000 students per year are enrolled. The School is a member of the European Organization of Library Schools (EUCLID).

Military Sciences

Hærens Officersskole (Army Officers School), Frederiksberg Slot, Roskildevej 28, Postboks 214, 2000 Frederiksberg, Denmark. Phone: +45 31 16 22 44, Fax: +45 36 44 01 60

Admission: Completion of secondary school and completion of an Army Non-Commissioned Officer's School and 6 months of service as a sergeant. Both men and women are eligible. There are 60 places annually.

- **Program Structure:** The officer training course of 50 months is in two parts. Part One, the Basic Course, is 32 months in duration, after which students are promoted to 1st Lieutenant (*premierløjtnant*) and become Officers (*Officer af Linien*). Program includes specific military subjects (1,250 hours) and general military subjects (335 hours) such as resource management; physical training (410 hours), political sciences and war history (250 hours), and leadership (600 hours); and general education including economics, English, German, math, etc. (420 hours); and additional English, German, or mathematics, or technical subjects (210 hours).

After 3-4 years of service, officers may return to the Advanced Officer's Course, 18 months in duration. The Advanced Course includes 875-1,000 hours of specific military subjects, general military subjects (e.g., resource management [110 hours]), physical training (50 hours), political sciences and war history (150 hours), leadership (230 hours), general education in English and German (280 hours), and mathematics or technical subjects (280 hours). During the last 3 months, the course is divided into an operations section and a technical section. Upon completion, the officer is promoted to Captain (*kaptajn*).

Naval Officer Training (*Søværnet*): Admission requires an upper secondary school leaving certificate from the mathematics stream, with optional studies in mathematics, physics, Danish, and English. There are 50 places annually.

Air Force (*Flyvevåbnet*): Admission requires an upper secondary school leaving certificate with mathematics, Danish, and English. There are 45 places annually. The school offers further continuing education programs in technical and management subjects.

Music

Music is officially encouraged in Denmark. By law every municipality must have a music school and offer music teaching from infancy to age 25. There are seven Danish symphony orchestras.

University Music Education

Music is taught at three Danish universities: the University of Copenhagen, University of Aar-

hus, and University of Aalborg. The program begins with basic studies that require 2 years and include music history, theories of the humanities, integrated theoretical and practical studies, music analysis, theory of harmony, ensemble playing and instruction, ear-training, arrangement of popular tunes, and piano. The basic studies are followed by studies either in the general branch, which comprises the same studies as the basic studies but at a higher level, or a branch program for those wishing to specialize within certain areas of musicology. The general branch advanced program is mandatory for those wishing to become music teachers in the Danish upper secondary school system. Both branches require an independent research thesis of no more than 100 pages. The degree awarded is the *cand.phil.* It is possible also to study for the *mag.art.* (Master's in Humanities) by undertaking independent studies in the field. At AUC a *cand. phil.* in music therapy is also awarded that certifies the holder as a Music Therapist. No further experience or exams are required. Certification is offered by the Union of Music Therapists. It is also possible for students to obtain a *Ph.D.* degree.

Conservatory Music Study

Conservatory music education is administered by the Ministry of Culture. There are five music conservatories in Denmark offering classical music training.

Det Kongelige Danske Musikkonservatorie (The Royal Danish Academy of Music) Niels Brocksgade 1, København V, Denmark. Phone: +45 33 12 42 74.

Est. 1887 as a private school and became public in 1956.

- **Enrollment:** (1992) Approximately 400 students.

Det Jyske Musikkonservatorium (The Jutland Music Conservatory), Fuglsangs Allé 26, 8210 Aarhus V, Denmark. Phone: +45 86 15 53 88.

Det fynske Musikkonservatorium (The Funen Music Conservatory), Islandsøgade 2, 5000 Odense, Denmark. Phone: +45 6611 06 63

Nordjysk Musikkonservatorium (North Jutland Music Conservatory), Ryesgade 52, 9000 Aalborg, Denmark. Phone: +45 98 12 77 44

Vestjysk Musikkonservatorium (West Jutland Music Conservatory), Islandsøgade 50, 6700 Esbjerg, Denmark. Phone: +45 75 12 61 00

- **Admission:** Applicants are expected to have completed upper secondary school and must pass the conservatory entrance examination.
- **Program Structure:** At the classical conservatories, there are two study programs: one in performance and one in training to be a music teacher. Professional music training is offered on most instruments: accordion, bass and tenor trombone, bassoon, recorder, cembalo, flute, guitar, harp, horn, clarinet, piano, double bass, lute, oboe, saxophone, percussion, trumpet, tuba, viola, viola da gamba, violin, cello, and voice.

Credentials Awarded:

The conservatories in Copenhagen and Aarhus offer all degrees. The other conservatories offer only the first degrees.

Musiklærereksamen and *Diplom i musik* (Music Teacher's Degree and Diploma in Music): The Music Teacher's degree requires 4 years of study divided into two sections. At the end of the second year there is a major examination. After 2 additional years the diploma examination is given. There are two combinations of subjects: (1) a major subject, e.g., instrument (except organ), voice or theory and history of music, a secondary major subject, and minor subjects; (2) general music education, elementary level, that requires three major subjects: elementary music education, choral instruction, and ensemble instruction; a secondary major subject, e.g., instrument, voice; and minor subjects. Graduates are qualified for teaching in the Danish public school system.

Diplom i Musikpædagogik (Diploma in Music Pedagogy): Five years of study are required to obtain this degree (1 year beyond the *Musiklærereksamen*). Two subject combinations are offered: (1) a major subject (e.g., instrument, voice, or theory and history of music), one secondary major subject (from the Music Teacher's degree), and minor subjects; or (2) three major subjects: choral instruction, ensemble instruction and ear-training, one secondary major subject, e.g., instrument or voice, and minor subjects.

Diplom i ... (Diploma with name of instrument): The diploma in performance, church music, or composition requires 5 years of fulltime study and includes a major subject e.g., voice, instrument, or composition, and minor subjects. Graduates can teach the instrument at the beginner or intermediate level, but not in the public school system.

Advanced studies are also offered at the Royal Danish Academy of Music and the conservatory in Aarhus. All require applicants to have a recognized diploma or degree in music from a music school, academy of music, or university. Several specialties are offered.

Solistklasse (advanced solo performance class) requiring 2 additional years of fulltime study leading to the *Solist Diplom* (Soloist Diploma). The final examination is the professional debut of the students.

Repetition, akkompagnement, kammermusikklasse (advanced repetition, accompaniment, and chamber music class) requiring 2 years of fulltime study. The class is designed for piano students with special gifts for vocal and instrumental coaching and accompaniment.

Komponistklasse (advanced composer's class): After 2 years of study, a public performance of the student's work is given.

Dirigentklasse (advanced conductor's class) requiring 2 years of fulltime study.

Musikteoretisk specialklasse (advanced music theory special class) requires 1 year of independent study of a specified topic in the field of music theory recognized by the Royal Danish Academy of Music, and a written thesis.

In addition, the Royal Danish Academy of Music in Copenhagen offers advanced studies in opera at a branch of the *Opera Akademiet*. (Opera Academy). The *Diplom* in voice is required for admission.

Rytmsk Musikkonservatorium (Rhythmic Music Conservatory), Dr. Priemesvej 3, DK 1854, Frederiksberg C, København, Denmark. Phone: +45 31 23 24 52

The program requires 4 years of fulltime enrollment and concentrates on teaching rhythmic music. Up to 45 students are admitted annually. Two study programs are offered: training in performance as a rhythmic musician, and training to be a rhythmic music teacher. The music teacher program leads to a *Diplom i Rytmsk Musiklærer*, that qualifies the graduate to teach in private and communal music schools, further education courses, universities, and conservatories, but not in the public school system.

Social Work

Social work education is under the jurisdiction of the Ministry of Education and can be obtained at four schools of social work and at Aalborg University (from 1974-1985 Roskilde University also offered a program to train social workers). The 3- to 3.5-year course including field placements leads to

the degree of *Socialrådgiver* (Social Worker). At Roskilde University a diploma of *Socionom* (Social Worker) was previously awarded. Prior to 1985, Aalborg University awarded the diploma of *Socialrådgiver*.

Den Sociale Højskole i København, Randersgade 10, DK-2100 Copenhagen Ø, Denmark. Phone: +45 31 42 46 01

Den Sociale Højskole i Århus, Stenning 4, DK-8270 Højberg, Århus, Denmark. Phone: +45 86 27 66 22

Den Sociale Højskole i Odense, Campusvej 55, DK-5230 Odense M, Denmark. Phone: +45 66 15 88 00

Den Sociale Højskole i Esbjerg, Storegade 182, DK-6700 Esbjerg, Denmark. Phone: +45 7513 35 00

- **Admission:** Admission to the social work program in all schools requires satisfactory completion of secondary school and a minimum of 9 months of acceptable occupational experience in a related field. Many applicants have much more than the 9 months of occupational experience and there is an elaborate rating scheme to take into account the amount of experience an applicant has had. In 1993 the Social Work School of Copenhagen required an average on the secondary school leaving certificate of 9.1, Århus required an 8.8, Odense required an 8.8, and Esbjerg required an 8.5.
- **Program Structure:** The curriculum in the school of social work during the 3-year course of study consists of 10 fields of study: social law, family law, civil law and law of procedure, public administration, the labor market, social studies, social and labor market policies, economic planning, sociology, psychology, psychiatry/social medicine, and theory and method in social work. All 10 fields of study contain class teaching and project tutorials. The project work has two primary areas: (a) the individual, family, and society, and (b) institutions. The third and fourth semesters are devoted to practical training.

At Aalborg University (AUC) the course is 3.5 years. The first year is the standard Social Sciences Basic Course, required for all Social Sciences students at Aalborg. During the first year the student takes 3 of the fields of studies listed above. The rest are taken in the last 2.5 years. The qualifications for admission to this

program are identical to that of the Social Work Schools. In 1991 the average mark on the secondary school leaving exam required for admission at AUC was 8.7.

The Schools of Social Work offer further and continuing education for social workers who wish to upgrade or renew their skills. The schools also offer institutions in-service training of their employees.

An advanced studies program is available at the *Sociale Højskole i København*, the *Sociale Højskole i Esbjerg*, and the *Sociale Højskole i Århus*. This is a 10-month, 1,200-hour, fulltime program. The courses offer themes within four main areas: theories and methods in social work; supervision, consultation, and teaching methods; administration, management, and organization; and research. Upon completion students are awarded an *Afgangsbevis de Sociale Højskoler Videruddannelse* (Leaving Certificate of the School of Social Work's Further Education).

Theology

Students wishing to become ministers in the Danish National Evangelical Church study for the *Candidatus/a theologiae/cand.theol.* (Candidate of Theology) degree offered in the Faculties of Theology at the University of Copenhagen and the University of Århus. Ministerial training is under the Ministry of Ecclesiastical Affairs (*Kirkeministeriet*). The program requires 5 years of study, and is divided into a 2-year basic course and a 3-year advanced course. The curriculum includes the study of the Old and New Testaments, church history, dogmatics, the ethics and philosophy of religion, and practical theology (preaching, liturgy, and religious knowledge). An advanced reading knowledge of both Hebrew and Greek may be required. If the advanced Hebrew and Greek are included, the *cand.theol.* is a 6-year degree. At Århus, mission and ecumenical theology is included. A 3-month course at the postgraduate training college for the ministry (*Præsteseminariet*) is required to qualify candidates for a post as a minister.

Both universities also offer a B.A. (3 years of study), a *Candidatus/a cand.phil.*, a *cand.mag.* (4.5- 6 years of study), a *licentiatu/sa/lic.theol.*, a *lic.phil.*, and a *Ph.D.* in the study of theology and semitic philology. The B.A. in Theology was introduced in 1988 when all B.A.'s were introduced. However, it was abolished September 1, 1994, because the structure of the *cand.theol.*, as described above (2 + 3 years), does not fit into the general 3-year B.A. structure.

Religionsvidenskab, a 4-year Religious Sciences program, is offered at the University of Århus. A *Candidatus Philosophiae* degree is awarded that requires 2 years of basic study and 2 years of further in-depth study of religious sciences. The religious sciences major is in the Theology Faculty at Århus. A B.A. degree in the religious sciences program will be continued, even though the B.A. in Theology will no longer be offered. There is also a *religionsvidenskab* department at the University of Copenhagen, but it is in the Faculty of Humanities. At the University of Copenhagen, the regular B.A. structure, and a further 2 years leads to a *cand.mag.* degree with a major in religious studies.

A 1- to 1.5-year *suppleringsuddannelser* (supplementary education) is given in religion that qualifies teachers to teach religion at the upper secondary school. A certificate is issued to the student showing which examinations have been passed.

Students wishing to become deacons in the Danish Lutheran church pursue a 3- or 4-year vocational program at the *Diakonhøjskolen* in Århus, a postsecondary boarding school not recognized by the Ministry of Education, so no government study grants are given. The length depends on the students' former training and is divided into two parts, professional and spiritual (e.g., nursing and theology). Qualification for the program is not academic, but requires a "spiritual calling."

MARKET ECONOMIST DIPLOMA International Marketing

Name:

Civil Registration No.:

This is to certify that the above candidate has passed the exams pursuant to Danish Ministry of Education and Research Order No. 641 of September 6th 1991 with the result indicated below.

Subject area:	Year	Marks
International Marketing I, written	91	6
International Marketing II, written	92	8
English, written	91	8
English, oral (case in marketing)	92	7
German, written	91	6
German, oral	92	9
Business Economics, written	92	7
Production Management and Logistics, oral	91	8
International Economics, written	92	5
Business Law, written	92	5
Statistics, written	91	6
Administrative Systems, oral	91	11
Marketing Case, oral	92	9
Final interdisciplinary project, written (double weight)	92	10
Final interdisciplinary project, oral defence	92	11

Title: Analysing a Green Concept for Cola Cola Products.

Naestved Business College, 19th June, 1992

The Market Economist Diploma is awarded to candidates who pass the intensive 2-year undergraduate course offered by accredited Danish Business Colleges.

Flemming Jørgensen, Manager

EKSAMENSBEVIS



Handelsøjskolen
i København

Den erhvervssproglige korrespondenteksamen

bestået _____

Navn: _____

Cpr. nr. _____

Sprog

Prøveform

Karakter

Engelsk

Skriftlig prøve i oversættelse af en eller flere almensproglige tekster:
fra dansk

5-timers skr.
3-timers skr.

til dansk

2-timers skr.

Mdt. prøve, alm. sprog

Mdt. m. forb.

Sprogfærdighed/udtale

Mdt. m. forb.

Skriftlig prøve i fagligt sprog:
oversættelse af et eller
flere handelsbreve

5-timers skr.

udarbejdelse af brev(e)
efter oplæg

Mdt. prøve, fagsprogligt projekt

Mdt. u. forb.

DANMARKS TEKNISKE HØJSKOLE

THE TECHNICAL UNIVERSITY OF DENMARK

Diploma Supplement - English Version

page 1 out of 3

 /-----/

has passed the examination for the degree "Master of Science in
 Engineering" (Danish: "Civilingeniør").

Length of course: 5 years, full-time.

Entrance requirement : University entrance examination.

Date of graduation: 30 September, 1992

Course No.	Credit Points	Title of Course	Marks
0111/85	06	Advanced Calculus 1.....	11
0121/86	06	Advanced Calculus 2.....	10
0122/86	06	Linear Differential Equations.....	passed
0113/85	06	Linear Algebra.....	11
1010/86	06	Mechanics.....	8
1802/87	06	Thermodynamics.....	9
1803/87	06	Electricity and Magnetism.....	8
0115/86	06	Discrete Mathematics for Computer Science.....	passed
0142/87	06	Probability Theory.....	8
0159/91	06	Error-correcting Codes.....	9
0201/88	06	Numerical Methods.....	8
0304/87	06	Complex Variables and Applications.....	11
1109/87	06	Laboratory Course in Physics 1.....	passed
1202/86	06	Electronic and Atomic Physics.....	7
1204/89	06	Solid State Electronics.....	8
1705/87	06	Optoelectronics 1.....	8
2010/85	06	Basic Physical Chemistry.....	7
4201/87	06	Electronic Circuits (Audio and Video Amplifiers).. continued on page 2	8

DANMARKS TEKNISKE HØJSKOLE

THE TECHNICAL UNIVERSITY OF DENMARK

continued from page 1

page 2 out of 3

Course No.	Credit Points	Title of Course	Marks
4205/86	09	Electronic Circuits (Fundam. of Anal. Electronics)...	10
4211/90	06	Electronic Circuits (Radio Frequencies).....	9
4231/90	06	Signal Analysis.....	11
4232/90	06	Digital Signal Processing.....	11
4301/86	06	Computer Science 1.....	passed
4303/85	06	Introductory Digital Electronics.....	9
4313/88	06	Functional Programming.....	passed
4316/88	09	Digital Electronics and Microprocessor Systems....	6
4335/87	06	Computer Systems.....	8
4366/89	06	Dimensioning and Production of Digital Systems....	13
4384/86	06	Lab. Course in Digital Electronics.....	passed
4501/91	09	Microcomputer Systems.....	6
4503/88	06	Lab. Course in Microcomputersystems.....	passed
4702/90	06	Electro. Measurement and Instrum. (Lab. Course)...	passed
4705/91	09	Microprocessorbased Industrial Measuring Systems..	13
4710/87	06	Magnetic Circuits and Power Electronics.....	8
4891/91	06	Digital Image Processing.....	11
4901/86	06	Elementary Linear Circuit Analysis.....	9
4903/89	06	Network Theory.....	9
4913/91	06	Design of Ana. and Dig. Signal Process. Circuits...	7
4942/87	06	Signal Analysis.....	8
4943/91	06	Digital Communication.....	13
4961/90	06	Telecommunication (Transmission).....	11
5001/91	06	Automatic Control 1.....	9
8392/90	12	Business Law.....	8
8512/90	06	Introduction to Economics.....	passed
8533/90	06	Business Economics.....	11
8813/85	03	Linear Algebra - Computer Oriented.....	passed
..... continued on page 3			

DANMARKS TEKNISKE HØJSKOLE

THE TECHNICAL UNIVERSITY OF DENMARK

continued from page 2

page 3 out of 3

Course No.	Credit Points	Title of Course	Marks
42--/92	06	Indiv. projects at Electronics Institute.....	passed
		THESIS	
		Electronics Institute	
-- /92	36	Digital Signal Processing.....	13

Total number of credit points during the course programme is 333.

The combination of subjects chosen qualifies for the designation:
Master of Science in Engineering, Electrical Engineer.

The minimum number of credit points required for the Master's Degree is 330.

Two different scales of marks are used:

1)	13	
	11	Very good
	10	
	9	
	8	Good
	7	
	6	Acceptable
	5	Less Satisfactory
	03	Not passed
	00	

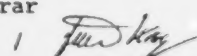
2) Passed/failed

For further information on the examinations and the curriculum,
see the University Handbook and complementary information.

Lyngby, 30 September, 1992



Registrar

1 
Jette Krøyer

Chapter 7

Health Sciences

Health sciences programs are offered in universities and in specialized institutions. Many of the scientific programs such as medicine, dentistry, and nursing have components offered in hospitals, nursing homes, etc. similar to other programs around the world. Some of the applied technical health sciences programs, for instance the Dental Technician and Dentistry programs, are vocational in nature, but are very demanding, and are often offered side by side with the more scientific programs.

Medical Fields

Chiropractic Education (Kiropraktoruddannelsen): Only a 1-year introductory course for the training of chiropractors is offered in Denmark, at the University of Odense. Admission requires an upper secondary school leaving certificate with mathematics, physics, and chemistry at the advanced level and English at the common core level. In addition, students are required to have at least 8 months of health-related practical work experience. Approximately 45 students are admitted annually. The introductory course covers chemistry, physics, general pathology, first aid, environmental biology, general anatomy, cytology, medical psychology, and sensory physiology. Upon completion students may apply to the Educational Committee of the *Dansk Kiropraktor-forening* (Danish Chiropractic Society) for placement in institutions outside of Denmark in order to complete their training.

Dentistry (Tandlægevidenskab): Until 1992 was offered at two independent institutions: *Københavns Tandlægehøjskole* (Royal Dental College of Copenhagen) and *Århus Tandlægehøjskole* (Royal Dental College of Aarhus). In 1992 these two institutions were merged with the Faculty of Medicine of the Universities of Copenhagen and Aarhus University, respectively, and renamed Faculties of Health Sciences. The merger occurred because of the decreasing need for dentists in Denmark. The

curriculum leading to the degree *candidatus/a odontologiae/cand.odont.* requires 5 years of study. The dental curriculum consists of the following subjects: basic courses in oral biology (10%): general physiology, anatomy, biochemistry, genetics, organic chemistry, dental morphology, and inorganic chemistry. Subjects of society and behavior (5%): nutrition, statistics and epidemiology, forensic medicine, and community dentistry. Para-clinical subjects (5%): introductory clinics, general medicine, anesthesiology, pharmacology, microbiology and immunology, dental materials, oral physiology, pathologic anatomy, and dental toxicology. Clinical subjects (65%): treatment planning, bite rehabilitation, pedodontics, surgery, local analgesia, comprehensive dentistry, oral diagnostics, oral gerontology, orthodontics, periodontology, prosthetic dentistry, and cheirology. Additionally a written report on a selected project is required.

Part I takes 1.5 years at Århus and 2 years at Copenhagen and consists mainly of theoretical oral-biological basic subjects (anatomy, physiology, biochemistry, general and organic chemistry, dental morphology, and physiology) together with some social and behavioral sciences and para-clinical subjects.

Part II takes 3.5 years at Århus and 3 years at Copenhagen and consists of theoretical training within a number of dental disciplines, including clinical training in connection with treating patients in the clinics.

To become a practicing dentist requires 1 additional year assisting in an authorized dental practice, after which authorization is granted from the health authorities. Further study leading to specialization in orthodontics or hospital dentistry requires an additional 5 to 6 years after the *cand.odont.* Short-term specialization courses are also regularly offered for practicing dentists.

Holders of the *cand.odont.* may continue academic research training and complete studies for a

licentiat odontologiae/lic.odont. that usually requires 3 years. After years of extensive research, it is possible to obtain a *Doctor odontologiae/dr.odont.*

Medicine (Medicin or Lægeuddannelsen): Studies for the first professional degree in medicine (*Candidatus/a medicinae/cand.med.*) are offered at the University of Copenhagen, Odense University and Århus University. Studies require 6.5 years. It is not unusual for studies to take 6 months to 2 years longer to complete. The graduate may use the title, *Læge*. Following completion of studies, students must complete 18 months of supervised experience: 6 in medicine, 6 in surgery, and 6 in clinical or general practice.

Admission is very competitive. Students entering through Quota 1 had upper secondary examination averages of 9.5 to 9.7 in 1992. Half the students are admitted through Quota 2, as the medical faculties feel individual assessment yields a better class than strict grade averages. Students who have not completed sufficient work in physics and chemistry must take supplementary courses during the first semester.

Offered at Århus University: Part I, the first 3 years (that can be completed in 2.5 years) are devoted to pre-clinical studies. Part II requires 3.5 years and consists partly of theoretical teaching in medical discipline, and partly of clinical teaching in hospital departments and clinical work with patients.

First semester: gross anatomy I, cytology I, medical chemistry I, statistics, medical sociology, medical psychology, clinical symposium I, first aid (A), culminating in a written exam in medical psychology and an oral exam in medical sociology. Students needing supplementary courses in physics and chemistry take these in the first semester.

Second semester: gross anatomy II, cytology II, medical chemistry II, genetics, epidemiology, clinical symposium II, biophysics (A), first aid (B). The semester ends with 4 written examinations: cytology I (4 hours), medical chemistry (3 hours), genetics/statistics (4 hours), epidemiology (3 hours).

Third semester: gross anatomy III, histology I, biophysics II (A), biochemistry I (A), biophysics I (B), medical philosophy and scientific theory (A). It ends with 3 examinations: gross anatomy (3 hours written and 45 minutes practical), biophysics (4 hours written), medical philosophy and scientific theory (4 hours written or take home exercise).

Fourth semester: histology II, biochemistry II (A), physiology, neuroanatomy I (A), biophysics II (B), biochemistry I (B), medical philosophy and

scientific theory (B). The end-of-semester exams are histology (oral), biophysics (4 hours written), biochemistry (3.5 hours written and oral), medical philosophy and scientific theory (4 hours written or a take home exercise).

Fifth semester: physiology II (A), neuroanatomy II (A), biochemistry II (B), physiology I (B), neuroanatomy I (B), medical philosophy and scientific theory (C). Fifth semester ends with the following exams: physiology/neuroanatomy (written essay 3 hours in physiology), 2 hours in neuroanatomy, and a written short answer test in physiology (4 hours).

Sixth semester: physiology II(B), neuroanatomy II(B). Examinations: Physiology/neuroanatomy: written essay, physiology (3 hours), neuroanatomy (2 hours), short answer physiology (4 hours), biochemistry (3.5 hours written and an oral exam), medical philosophy and scientific theory (4 hours written or take home exercise). A joint grade is given for the physiology and neuroanatomy essays; 20% of the grade is based on the neuroanatomy essay.

Clinical studies, part A: 1.5 years of study beyond successful completion of pre-clinical studies.

First semester (21 weeks): internal medicine (45 hours of lectures and 20 hours of clinical demonstrations), surgery including anesthesiology (45 hours of lectures and 20 hours of clinical demonstrations), clinical chemistry (5 mornings a week), radiology (5 mornings a week). All courses are obligatory and attendance is mandatory. No examinations are given at the end of the first semester.

Second semester (15 weeks): pathology, microbiology, pharmacology surgery, environmental/occupational medicine (including occupational medicine/hygiene, toxicology, and additional topics including excursions), physician patient communication, clinical genetics, social medicine, and sexology, and a one week long elective course in sexology that is offered after the exam period at the end of the semester. Surgery clinical demonstrations are required for completion of the first part of clinical studies. Exercises in microbiology must be completed prior to the exam. Examinations: clinical genetics (3 hours written), environmental/occupational medicine (5 hours written), pathology (4 hours written).

Third semester (12 weeks): medical microbiology (24 hours of lectures, 20 hours of colloquia, 9 hours of exercises), pharmacology (46 hours of lectures and colloquia, 20 hours of group teaching), epidemiology (16 hours of lectures and pa-

tient demonstrations), medicine (40 hours of clinical demonstrations), physician/patient communication (10 hours), clinical dietetics (13 hours of lectures), anesthesiology (10 hours of lectures).

Clinical demonstrations are required for completion of the first part of the clinical studies. Exercises in microbiology must be complete prior to registration for the exam. Exams: microbiology (5 hours written), pharmacology (5 hours written).

At the University of Copenhagen: Part I; this period requires 3 years and is composed of chemistry, physics, anatomy, medical psychology, biochemistry, physiology and biophysics, epidemiology, medical sociology and theory. Special courses are given in nursing, observation, first aid, early patient contact, basic sexology, and a clinical course with progressive clinical teaching coordinated with the contents of the other subjects. All students must write a report on a topic of their choice.

Part II: A period of 2.5 years of study consisting of theoretical teaching in medical disciplines and clinical teaching in hospital departments.

Part III: The last year is devoted to a major written report.

Offered at Odense University:

Part I: A 2.5-year period consisting of the first year of a Natural Sciences Basic Course, followed by studies similar to the other two universities.

Part II: The program followed is similar to that at Århus University.

Midwifery (*Jordemoderuddannelsen*): Training is given in only one institution, *Danmarks Jordemodterskole* (Danish Midwifery School), that has two branches in Denmark. The office in Copenhagen is at Rigshospitalet, Afsnit 7211, Tagensvej 18, 2200 København N. The office in Aalborg is at Vesterbro 21, DK 9100 Aalborg. The institution operates under the authority of the Ministry of Education in cooperation with the Ministry of Health.

Admission is very competitive. Approximately 70 trainees are now accepted annually, half to each of the school's two departments. New classes start in April and October, so each class has at least 15 students. Admission requires an upper secondary school leaving certificate, and 12 months of general vocational experience or completion of 9 years of compulsory education and a vocational preparation course of at least 2.5 years in a relevant subject, and at least 9 months of a general vocational experience. Also required is competence in English, social studies, mathematics, and biology (beginning in 1995 the competence must be in Danish, English, chemistry, and social sciences) at a level corresponding to the core subjects of the upper secondary school leaving examination.

General vocational experience is an admission requirement for all applicants. As there are more applicants than places, selection is based on criteria stipulated by the institution. Applicants who have completed nursing training and hold the credential of qualified nurse require only a 2-year course in midwifery training. If there are more applicants in this category than places, selection is based on the amount of clinical experience as a nurse in an obstetrics, gynecological, or pediatrics department.

The program requires 3 years and includes 40% theoretical instruction (approximately 1,600 hours) and 60% clinical work (84 weeks). Theoretical instruction is divided into three areas:

Midwifery subjects including anesthesiology, embryology, family planning and sexology, pharmacology, genetics, gynecology, midwifery responsibilities and competence, midwifery theory and methods, midwifery developments, neonatology, and obstetrics (55%)

Natural sciences and health subjects, which include anatomy and physiology, occupational physiology, nutrition, chemistry and clinical chemistry, surgery, medicine, microbiology and infectious diseases, and psychiatry (20%)

Behavioral and social sciences subjects, including occupational and social medicine, psychology, education, society, cultural and religious knowledge, social legislation, and organization of the health service (25%).

After the final examination, the student will receive a certificate from the school, and in order to obtain employment, an authorization from The National Board of Health.

Nursing (*Sygeplejerskeuddannelse*): Education to become a nurse is offered at 24 nursing schools throughout the country under the Ministry of Education (see listing at the end of this chapter). Supervision is the responsibility of the National Board of Health. A course leading to the title Assistant Nurse was formerly offered but was discontinued in 1992, when it was replaced by secondary programs in Social and Health Sciences (*Social- og Sundhedshjælper* and the *Social- og Sundhedsassistent*) programs described in detail in Chapter 3. Admission requires completion of upper secondary school (or other comparable schooling), usually with *Studentereksamen*, or an *HF*, *HHX*, or *HTX* and for most schools a minimum of 8 months of relevant experience.

The program is 3.75 years long and contains theoretical instruction (25 months) and clinical education in health and nursing care (20 months). The curriculum covers health and nursing care and other health subjects (60%), including nursing

theory and methodology, epidemiology, pathology, nutrition, pharmacology, and social, occupational, and environmental medicine; natural sciences (20%), including anatomy, physiology, physics, chemistry, biochemistry, microbiology, clinical chemistry, and genetics; and arts subjects and social studies (20%), including psychology, pedagogy, sociology, communication, and structure and functions of the health and social services.

On completion of the Nursing Course students receive a diploma from the educational institution, a *Sygeplejefaglig Diplomeksamen* (Nursing diploma), and authorization to work from the National Board of Health as a professional general nurse with the title of *Sygeplejerske*. There are specialized and advanced educational programs offered in a number of areas. Specialized courses are offered in fields such as anesthetic nursing and hygiene nursing. An advanced Nursing Diploma is offered in three fields: management, teaching and education, and health visitor. A course leading to a *Candidat* diploma in nursing, (*Candidatus/a curationis/cand. cur.*) was established in 1991, that qualifies graduates for managerial nursing posts and employment as health visitors or in the Employees' Health Service. It is also possible to take a Ph.D. in Nursing Sciences.

Pharmacy (Farmaceutuddannelsen): The Royal Danish School of Pharmacy began offering pharmaceutical studies in 1892 and is the only institution in the country offering these studies.

Danmarks Farmaceutiske Højskole (Royal Danish School of Pharmacy), Universitetsparken 2, 2100 København, Denmark. Phone: +45 35 37 08 50, Fax: +45 35 37 57 44

Admission to the program leading to the *Candidatus/a pharmaciae/cand.pharm.* and the title of *Farmaceut* (Pharmacist) is competitive. On the average 500 students apply for 200 places. Applicants must hold an upper secondary leaving certificate that includes mathematics and physics at Level A and Chemistry at Level B. The course of study for the program is 10 semesters in duration. The first 7 semesters include compulsory studies in chemistry (1.5 years), biology (1 year), pharmaceutics (.5 year), and social pharmacy and economics (.25 year). At the end of 3 years of study students are at the level of a *Bachelorgraden scient.* (after 1994, a *Bachelorgraden scient.* will be awarded). The eighth semester (.5 year) is an internship at a pharmacy or (with special permission) a pharmaceutical establishment. The last 2 semesters of the program are composed of a half year of elective subjects and a half year of thesis research. Advanced study leading to the Ph.D. is offered in the pharmaceutical

fields. The Ph.D. is at least 3 years in duration and requires the defense of a dissertation.

Veterinary Medicine (Veterinarvidenskab): Studies leading to the degree of *Candidatus/a medicinae veterinariae/cand.med.vet.* are offered at *Den Kongelige Veterinær- og Landbohøjskole* (The Royal Veterinary and Agricultural University). The program is 5.5 years in duration. All subjects are taught with both theoretical and practical training. Graduates use the title of *Dyrlæge*. Admission is competitive and requires a *Studentereksamen*, or an *HF* with optional mathematics, physics, and chemistry, or an *HHX* with *HF* in optional mathematics, physics, chemistry, and common core biology. A basic course in mathematical subjects may also be required.

Semester 1 includes studies in chemistry (220 hours), biostatistics (75 hours), zoology (60 hours), and computer sciences (40 hours). There is a required examination in each subject except zoology.

Semester 2 includes chemistry (255 hours), physics (60 hours), zoology (60 hours), and genetics and domestic animal breeding (45 hours), with exams in all subjects except genetic and domestic animal breeding.

Semester 3 includes genetics and domestic animal breeding (45 hours), anatomy (165 hours), veterinary biochemistry (45 hours), and a biochemistry training course (45 hours). There is an exam only in veterinary biochemistry.

Semester 4 includes epidemiology (45 hours), genetics and domestic animal breeding (45 hours), domestic animal feeding and use (45 hours), anatomy (190 hours), biochemistry (30 hours), and veterinary physiology (105 hours). Examinations are required in epidemiology, genetics, and domestic animal breeding and biochemistry.

Semester 5 includes domestic animal feeding and care (135 hours), anatomy (55 hours), and veterinary physiology (90 hours). Examinations are required in all three subjects.

Semester 6 includes general pathology (110 hours), virology and immunology (60 hours), microbiology (15 hours), pharmacology and toxicology (30 hours), pharmacy (20 hours), internal medicine (30 hours), medical law (5 hours), and clinical methods (200 hours). Examinations are required in general pathology, virology and immunology, and pharmacy.

Semester 7 includes parasitology (60 hours), microbiology (120 hours), pharmacology and toxicology (60 hours), special pathology (60 hours), fish diseases (10 hours), internal medicine (120 hours) surgery (30 hours), surgical techniques (60

hours), and food sciences, microbiology, and hygiene (45 hours). Examinations are required in parasitology, microbiology, fish diseases, and surgical techniques.

Semester 8 includes pharmacology and toxicology (30 hours), special pathology (75 hours), internal medicine (105 hours), surgery (90 hours), reproduction (60 hours), small animal diseases (90 hours), poultry diseases (30 hours), and food sciences, microbiology, and hygiene (90 hours). Examinations are required in pharmacology and toxicology, reproduction, food sciences, microbiology, and hygiene.

Semester 9 includes special pathology (90 hours), internal medicine (75 hours), surgery (75 hours), poultry diseases (30 hours), and small animal diseases (135 hours). Examinations are required in all subjects.

Semester 10 and 11 include reproduction (150 hours), practical meat control and hygienic inspection (60 hours), and 600 to 700 hours of elective subjects. All courses have required examinations.

Paramedical Fields

Dental Assistant (Tandklinikassistent): The chairside assistant program is vocational education that has a duration of 3 years. Most of the training takes place in a private or public dental clinic. The courses are offered at the *Skolen for Klinikassistenter og Tandplejere* (School for Clinical Assistants and Dental Hygienists), Copenhagen (Phone: +45 35 32 58 52), the *Skolen for Klinikassistenter, Tandplejere og Kliniske Tandteknikere* (School for Clinical Assistants, Dental Hygienists, and Clinical Dental Assistants), Århus (Phone: +45 86 13 25 33), and at certain technical colleges.

Admission requires completion of the *Folkeskolens Afgangsprøve* (grade 9) or *Udvidede Folkeskolens Afgangsprøve* (grade 10). Those under 18 are required to take an introductory course before beginning. The program begins with either vocational training in a dental clinic or a course at a school. Subsequently the education is divided into alternating periods of practical work at clinics and periods of school attendance. In the clinic the student is expected to participate with the staff in the daily work, which is also supplemented with theoretical work. The curriculum includes basic biological and medical subjects, e.g., anatomy, dental morphology, physiology, microbiology, sterilization procedures, general medicine, pharmacology; social and behavioral sciences, e.g., psychology, service; and clinical subjects, e.g., cariology, periodontology, orthodontics, and dental radiography, with emphasis on chairside assis-

tance. All classes are obligatory. There are approximately 32 periods of instruction and exercises per week during the classroom portion of the program and 37 hours per week of attendance during the clinical portion. The graduates of this program who decide to apply to the dental hygienist program receive approximately 6 months of transfer credit.

Dental Hygienist (Tandplejere): Training is offered at the *Skolen for Klinikassistenter og Tandplejere* (Dental Auxiliary Division), Copenhagen (Phone: +45 35 32 58 52) and the *Skolen for Klinikassistenter, Tandplejere og Kliniske Tandteknikere* (Dental Auxiliary Division), Århus (Phone: +45 86 13 25 33). The course of study is 2 years and there are 50 new places each year in each school. The schools are associated with the Dental Schools of the University of Copenhagen and University of Århus.

Admission requires the *Folkeskolens Udvidede Afgangsprøve* (tenth grade leaving certificate) with marks of 6.0 or more in Danish, English, mathematics, physics, or chemistry.

The 2-year curriculum includes basic biological and medical subjects (10%), e.g., anatomy, physiology, microbiology, nutrition, general medicine, pharmacology, and dental morphology; social and behavioral subjects (25%), e.g., theory and practice including social studies, sociology, psychology, educational theory, health education tasks and projects, and organization and planning of preventive dental care; and clinical subjects (65%), e.g., chiology, periodontology, oral functions, orthodontics, dental care for the elderly, radiography, treatment of patients with examinations and preventive treatments, health education and diet guidance in the clinic, and oral care for the ill, disabled, and those confined to homes. All classes are obligatory. Teaching is by lecture, group work, project work, and practical and clinical exercises including the treatment of patients. There are approximately 30 periods of instruction and exercises per week. After graduation dental hygienists can work in dental offices under the supervision of a dentist.

Clinical Dental Technician (Klinisk tandtekniker): Education is offered at the *Skolen for Klinikassistenter, Tandplejere, og Kliniske Tandteknikere* (School for Clinical Assistants, Dental Hygienists, and Clinical Dental Hygienists), Århus (Phone: +45 86 13 25 33), that is associated with the Dental School at the University of Århus. The course lasts for 2 years and approximately 10 students per year are accepted. Admission requires graduation from Dental Technician School in Copenhagen (2-year vocational training in laboratory procedures).

The 2-year curriculum includes 10% basic biological and medical subjects, e.g., anatomy, dental

morphology, physiology, microbiology, nutrition, general medicine, and pharmacology; and 5% social and behavioral sciences, e.g., psychology and forensic sciences. The clinical subjects (75%) include theory and practice in how to construct and insert removable dentures, and subjects such as occlusion, cariology, periodontology, dental radiography, and laboratory exercises.

All classes are obligatory. Teaching is by lecture, group work, and practical and clinical exercises including treatment of patients. There are approximately 30 periods of instruction and exercises per week. After graduation and a year of employment, clinical dental technicians can get a license to practice independently through the National Health Service.

Hospital Trained Dietitian (*Økonom*): Training is offered at two institutions: *Økonomaskolen* (School for Hospital Trained Dietitians), Universitetsparken 4, 2100 København Ø (Phone: +45 35 36 07 38) and *Økonomaskolen*, Doesvej 66, 7500 Holstebro (Phone: +45 97 42 14 66). Practical training is carried out in approved hospitals throughout the country. Admission requires both theoretical and practical qualifications. Applicants must have completed one of the following:

A. Kitchen Assistant Course and qualification in mathematics, physics/chemistry, and English at least at the tenth grade, *FUA* level with marks of 6.0 or higher.

B. An upper secondary school certificate with mathematics, physics/chemistry, and English with marks of 6.0 or higher. In addition to the above academic requirements, applicants must have completed a minimum of 6 months of practical work in an approved hospital or institutional kitchen.

The course takes four 6-month terms to complete. In the first and fourth semester theoretical instruction is given at the *Økonomaskole*. Semester 1 includes nutrition, calculation and planning of diets, hospital diets and dietetics, hygiene and ergonomics, psychology, food chemistry, biochemistry, nutrition, and physiology and pathology. There are 30 teaching periods a week. The fourth semester includes experimental diet production, organization, production and distribution systems, kitchen organization, and personnel management and administration. The second and third semester consist of on the job training in a hospital kitchen approved for educational purposes.

Medical Laboratory Technologist (*Hospitalslaborant*): Training is given in hospitals throughout Denmark. The theoretical instruction is given at the *Hospitalslaborantskolen i København* (Medical Laboratory Technologists School of Copenhagen),

Panum Institutet, Nørre Allé 20, 2200 København N (Phone: +45 35 37 02 88) or *Hospitalslaborantskolen i Århus*, Studegade 29, 8000 Århus C (Phone: +45 86 12 63 66). Admission requires completion of at least 10 years of schooling with the *FUA* (Extended Leaving Certificate) in Danish, English, or German, or an upper secondary school leaving certificate. Of the successful candidates, 90 to 95% have the *Studentereksamen* or the *HF*.

The course of study takes 3 years and students receive a salary while in the program. Three programs are offered: clinical chemical medical laboratory technologists, pathological/anatomical (histo/cyto) medical laboratory technologists, and blood group/serological (blood bank) medical laboratory technologists. Each course consists of 3 periods of work practice and 2 periods of theoretical courses.

The basic course requires 4 months and includes physics, chemistry, mathematics, biology, and technology. The main course requires 5 to 6 months and varies with the program chosen, as follows: the clinical chemical course includes mathematics, statistics, physics, chemistry, organic chemistry, biochemistry, pathology, physiological and clinical chemistry, and microbiology; the pathological/anatomical course comprises instruction in physics, chemistry, organic chemistry, pathological anatomy, histology, histological techniques, and cytology; the blood group/serological course includes genetics, organic chemistry, blood group serology, general and special immunology, pathology, and transfusion medicine.

On successful completion of studies, the student receives authorization as a *Hospitalslaborant* (medical laboratory technologist). Following at least 2 years of work experience after graduation as a *Hospitalslaborant*, a 1 year course of study is available to train Chief Technologists and Teacher Technologists within hospital laboratories.

Laboratory Technologist (*Laborant*), Chemical Technologist (*Kemisk teknolog*), and Environmental Technologist (*Miljøtekniker*): Education is offered at various *Tekniske Skole* (see Chapter 4) and at the *Laborantskolen i Hovedstadsområdet* (Laboratory Technologist School of the Greater Metropolitan Area), Rådmandsgade 71, 2200 Copenhagen N. Admission is open to those holding a credential as *Laborantassistent*, Laboratory Assistant, or *Hospitalslaborant*, Hospital Laboratory Technologist, or an *HTX*, technical upper secondary school leaving certificate. The training program is 1.5 years, but is often completed over 3.5 years on a part-time basis.

In the first semester the curriculum includes technology and mathematics, statistics, chemistry,

biology and English. In the second and third semesters, several specializations are offered: chemical technology, laboratory technology/biology, laboratory technology/chemistry, and environmental technology.

Chemical technology: Instruction in business studies (labor market conditions and business organization, cooperation, communication, management and economics, operations and stock planning) and process technology (process, measurement, and regulation technology and machines and materials). The course ends with a major project carried out in a Danish firm or company.

Laboratory Technology/Biology and Laboratory Technology/Chemistry: The second semester is the same for both specializations and includes continuation courses in technology, general subjects, and business studies (quality control, economics, business organization, planning, management, and equipment purchasing). Those pursuing the biology program concentrate on biology, biotechnology, and project work in the third semester. Those in chemistry concentrate on chemical technology and project work.

Environmental Technology: Semesters 2 and 3 include studies in statistics, chemistry, physics, physical chemistry, business subjects, safety, computer sciences, drinking water, waste water, recipients, quality control, waste, air pollution, noise, work environment, law, case planning and processing, laboratory, and field work. The course ends with a 6-week project.

Occupational Therapist (*Ergoterapeut*): Training in occupational therapy is offered in six out of the eight colleges of Occupational Therapy and Physiotherapy. Information can be obtained from *Ergoterapeut- og Fysioterapeutsolen*, Postboks 1450, Lægårdsvej 12, 7500 Holstebro, Denmark (Phone: +45 97 41 25 66). (See listings at the end of this chapter.) There are approximately 200 new student places a year in these six colleges. The colleges operate under the authorization of the Ministry of Education. All the colleges reach the international standards set by the World Federation of Occupational Therapists.

Admission is very competitive and in 1992 required a 9.0 average on the upper secondary school leaving certificate (*Studentereksamen*). The course is 3 years in duration, including 22 to 24 weeks (20%) of fulltime practical experience, that leads to the title of *Ergoterapeut* (Occupational Therapist). Occupational therapy instruction (70%) is divided into three themes:

Theme 1: general occupational therapy and methods, including the basics of occupational therapy. Theme 2: special occupational therapy

and methods, including treatment and prophylactics. Theme 3: scientific development and communication, including the development of occupational therapy. Throughout the 3 years, course work is required in the following areas: Natural sciences: anatomy and physiology (10%); educational and psychological studies: educational theory and psychology (5%); health and medicine: social and industrial medicine, instruction in somatic and psychic diseases (10%); social sciences: health policies and social legislation, labor market conditions and legislation (5%). Advanced study leading to a certificate is offered in a 10-month course at Århus that qualifies the holder for positions in administration, lecturing and teaching.

Orthoptics: Training is not offered in Denmark. Studies in other countries are recognized by Denmark.

Pharmacy Assistant (*Apoteksassistent*): Training is in pharmacies, with supplementary courses offered by the *Apoteksassistent-skolen* (Pharmacy Assistant School, Milnersvej) 42, 3400 Hillerød (Phone: +45 42 26 50 00). Admission requires an *FUA*, Extended Leaving Certificate (after tenth grade) and courses in physics and chemistry or an upper secondary school leaving certificate. Of the students, 80% enter the program with the full upper secondary school leaving certificate.

The traineeship lasts 3 years with 3 periods at the school, each of 5 weeks duration. The School's laboratories and the teaching pharmacy give regular practical exercises throughout the program. Two written reports are required on Pharmacy and Society and Pharmacy.

Physical Therapist (*Fysioterapeut*): Training leading to the title of *Fysioterapeut* is offered in 8 colleges of Occupational Therapy and Physiotherapy in Denmark. (See listing at end of this chapter.) Authorization to practice is given by the Ministry of Health, which has recognized the curriculum followed at all the schools. The privately financed *Dansk Mensendieck Skole* (Danish Mensendieck School) is not recognized by the Ministry and graduates are not able to obtain authorization to practice as physical therapists. Most enter the field of physical education.

Admission is very competitive and requires an upper secondary school certificate and a minimum of 9 months of relevant work experience. Preference is given to applicants with substantial work experience in related fields. There are 290 to 350 new places a year.

The course of study is 3 years in duration. There are approximately 30 teaching periods a week. The year is broken into 6 terms of 19 weeks each. In the first 1.5 years all study is at the col-

lege. In the second year 1.5 years, half of the day is spent at the college and the other half is spent in practical training in hospitals and institutions.

The curriculum includes physiotherapy and method, ergonomics, gymnastics, anatomy, physiology, pathology, psychology, educational theory, psychiatry, social and occupational medicine, sociology, and social legislation. The last year 1.5 years is a combination of theory and clinical practice. The clinical part takes place in hospitals and other institutions where physiotherapists are normally employed. As a principal rule, clinical practice takes place 4 hours per day for 28 weeks. A final project is required in the last semester. Graduate senior and teaching physiotherapists may pursue a 10-month fulltime course at Århus leading to a certificate that qualifies the holder for positions in administration.

Radiographer (Radiograf): Training is offered in three institutions:

Københavns Amt Sygeplejeskolen, Turkisvej 14, DK-2730 Herlev, Denmark. Phone: +45 44 53 53 00, ext. 4127.

Radiografskolen i Odense, Fyn Amts Sygehusvæsen, Odense Sygehus, DK-5000 Odense C, Denmark. Phone: +45 66 11 22 22, ext 4505 or 4490.

Radiografskolen ved Århus Kommunehospital, Nørrebrogade 44, DK-8000 Århus C, Denmark. Phone: +45 86 12 55 55.

Admission to the program requires documentation of at least 10 years of schooling with a *Studentereksamen*/STX or HF in mathematics, physics, chemistry, and English, a completed first aid course, 9 months of work experience, good health, and a minimum age of 20. Nearly all students admitted hold the full upper secondary school certificate.

The 3-year program combines theoretical instruction and clinical training. There are three stages: Stage 1 is 15 weeks of theory and 42 weeks of clinical training; Stage 2 is 10 weeks of theory and 35 weeks of clinical training; and Stage 3 is 4 weeks of theory and 29 weeks of clinical training. The curriculum includes work in mathematics, physics, anatomy and physiology, nursing, microbiology, psychology, education theory, examination techniques, protection X-ray physics, processes of techniques in X-ray photography, and apparatus.

(Additional Institutional Listings)

Nursing Schools Approved by the National Board of Health

Den Sønderjyske Sygeplejeskole, Sydvang 1, 6400 Sønderborg, Denmark. Phone: +45 74 43 03 11, ext. 2901

Diakonissestiftelsens Social- og Sundhedsskole for Frederiksberg, Kommune Sygeplejerskeuddannelsen Peter Bangs Vej 1 B, 2000 Frederiksberg, Denmark. Phone: +45 38 38 44 44

(Before 1992, it was:)

Frederiksborg Amts Sygeplejeskole, Helsevej 2, 3400 Hillerød, Denmark. Phone: +45 42 26 15 00

Frederiksberg Sygeplejeskole, Nordre Fasanvej 57, 2000 Frederiksberg, Denmark. Phone: +45 38 34 77 11, ext 5030

Fyns Amt Sygeplejeskolen, Svendborg, Baagøes Alle 8 B, 5700 Svendborg, Denmark. Phone: +45 62 21 44 44, ext. 2360

Fyns Amt Sygehusvasen Sygeplejeskolen Sdr., Boulevard 29, 5000 Odense C, Denmark. Phone: +45 66 11 33 33, ext. 4491

Københavns Amt, Sygeplejeskolen i Herlev, Turkisvej 14, 2730 Herlev, Denmark. Phone: +45 44 53 53 00

Københavns Sundhedsvæsen, Sygeplejerskeuddannelsen, Fensmarkgade 65, 2200 København N, Denmark. Phone: +45 35 28 71 00

Ribe Amts Sygeplejeskole, Gjersinglund Allé 4, 6715 Esbjerg, Denmark. Phone: +45 75 13 66 11, ext. 2603

Ringkjøbing Amts Sygeplejeskole i Herning og Holstebro, Lægårdsvej 12G, 7500 Holstebro, Denmark. Phone: +45 97 41 42 00, ext. 6700

Roskilde Amts Sygeplejeskole, Køgevej 7, 4000 Roskilde, Denmark. Phone: +45 46 30 22 00
Sjukrasystraskuli Føroya, Torshavn, Denmark. Phone: +45 13 540, ext. 436

Skolen for Social- og Sundhedsuddannelser, Bornholms Amt, Ullasvej 6, 3700 Rønne, Denmark. Phone: +45 56 95 11 65, ext. 5000

Skolen for Sundhedsuddannelser, Afdelingen i Næstved og Nykøbing F, Herlufsvænge 14, 4700 Næstved, Denmark. Phone: +45 53 72 14 01, ext. 2800

Sygeplejeskolen i Aalborg, Søndre Skovvej 15, 9000 Aalborg, Denmark. Phone: +45 98 13 11 11, ext. 7450

Sygeplejeskolen i Randers, Østervangvej 26, 8900 Randers, Denmark. Phone: +45 86 41 82 00

Sygeplejeskolen i Silkeborg, Høgevej 4, 8600 Silkeborg, Denmark. Phone: +45 86 82 37 55

Sygeplejeskolen i Thisted, 7700 Thisted, Denmark. Phone: +45 97 91 16 88

Sygeplejeskolen i Vejle Amt, Beriderbakken 28, 7100 Vejle, Denmark. Phone: +45 75 83 60 44

Sygeplejeskolen i Viborg Amt, Toldbodgade 12, 8800 Viborg, Denmark. Phone: +45 86 61 30 00, ext. 2264

Sygeplejeskolen ved Århus Kommunehospital, Nørrebrogade 44, S B 1 3. sal, 8000 Århus C, Denmark. Phone: +45 86 12 55 55, ext 4120

Sygeplejeskolen ved Rigshospitalet, Tagensvej 20, afsnit 7301, 2200 København N, Denmark. Phone: +45 35 45 35 45, ext. 7301

Sygeplejeskolen, Århus Amtssygehus, Tage Hansengade 2, 8000 Århus C, Denmark. Phone: +45 86 20 95 66

Vendsyssel Sygeplejeskole, Bidstrupvej 3, 9800 Hjørring, Denmark. Phone 98 92 74 44

Vestsjællands Amts Sygeplejeskole, Ingemannsvej 35, 4200 Slagelse, Denmark. Phone: +45 58 50 07 10

Schools of Occupational and Physical Therapy

Ergoterapeut- og Fysioterapeutskolen i Aalborg, Sohngårdsholmsvej 51, DK-9000 Aalborg, Denmark. Phone: +45 98 14 28 44

Ergoterapeut- og Fysioterapeutskolen i Holstebro, postboks 1450, Lægaardvej 12, DK-7500 Holstebro, Denmark. Phone: +45 97 41 25 66

Ergoterapeut- og Fysioterapeutskolen i Næstved, Troensevej 6, DK-4700 Næstved, Denmark. Phone: +45 53 73 94 00

Ergoterapeut- og Fysioterapeutskolen i Odense, Munkebjergvænget 34, DK-5230 Odense M, Denmark. Phone: +45 66 15 65 05

Ergoterapeut- og Fysioterapeutskolen i Århus, Skejbyvej 15, DK-8240 Risskov, Denmark. Phone: +45 86 21 11 88.

Ergoterapeutskolen i København, Universitetsparken 4, DK-2100 København Ø, Denmark. Phone: +45 35 36 95 95

Fysioterapeutskolen i Esbjerg, postboks 2028, Skolebakken 171, DK-6705 Esbjerg Ø, Denmark. Phone: +45 75 14 43 00

Fysioterapeutskolen i København, Universitetsparken 4, DK-2100 København Ø, Denmark. Phone: +45 35 36 70 22.

Chapter 8

Teacher Education

Overview

There are different types of teacher training in Denmark that prepare teachers for various levels of classes and ages of students, and until 1991 there were separate colleges for each type of teacher. These have now all been combined into Colleges of Educator Training, offering the following programs:

1. Preschool and Social Care Teacher (or Educator) Training: a 3.5 year program for the training of nursery school and kindergarten teachers, "social pedagogues" (a combination of teacher and social worker), and recreation teachers.
2. Colleges of Education for the training of primary and lower secondary school teachers for students aged 6 to 16. The program is 4 years in length.
3. Vocational training colleges for the preparation of vocational and technical teachers. There is much variation in this training.
4. University training for upper secondary school teachers.
5. *Danmarks Lærerhøjskole* (The Royal Danish School of Educational Studies) offers in-service pedagogical courses and graduate studies in education for students who have graduated from a teacher training program and have additional experience. A *candidatus/a paedagogiae/cand.paed.* degree is offered.

Preschool and Social Care Teacher Training

There are many different kinds of public daycare facilities in Denmark for children up to 14 years of age. Day nurseries will take children up to 3 years of age. Kindergartens are generally full day programs and will take children aged from 3 to 7. Integrated daycare centers (generally including kindergartens) take children in different age groups, usually up to 6. These centers are generally open from 6:30 A.M. to 5:00 P.M. Recreation centers take children from 6 to 14. Frequently there are daycare facilities available in schools for the 6 to 14 year olds.

An integrated preschool and social care program has been established in order to meet the teacher training needs of these programs. Requirements for admission to the program vary. Approximately 20% of the students are admitted directly following secondary school. The overall average required of the students in 1991 was approximately 8.0, though each of the 37 schools that offer the program requires different average marks (see list of institutions at the end of this chapter). Eighty percent were admitted on the basis of life and employment experience, community involvement, maturity, and interview. While no specific credential is required, 75% of the students hold secondary school leaving certificates. The academic program is 3.5 years in duration including 15 months of practice teaching spread over the 7 semesters. Each year must consist of 200 teaching days. Emphasis is on holistic teacher development with special attention given to relationships between student teachers, teachers, and practicum supervisors.

The program includes pedagogy and psychology (30%), social and health sciences (20%), activities and culture studies, including Danish, music, kinetics, athletics, creative arts, drama, nature, and electives (40%), and communication, organization, and management (10%). A final thesis is required. Different emphasis is put on the course work offered and students major in three areas: young child teaching, recreation, and social care. There is an unpaid 12-week student teaching experience in the first year, and a 26-week paid practice teaching period in the second and third years.

Grading for classes graduating through 1994:

<i>Udmærket</i>	Excellent
<i>Tilfredsstillende</i>	Satisfactory
<i>Antageligt</i>	Acceptable
<i>Uantageligt</i>	Unacceptable

At the end of the course, the student is awarded a general proficiency mark, the grading of which is *Godkendt* (approved) or *Ikke Godkendt* (not approved.) For classes that began in 1992, the program is completed with three examinations using the normal Danish grading scale of 13 to 0.

The diplomas awarded through 1994 are the *Afgangsbevis for Børnehavepædagoger* (Preschool Teacher), *Afgangsbevis for Fritidspædagoger* (Recreation [Free Time] Teacher), and *Afgangsbevis for Socialpædagoger* (Social Care Teacher). After 1995, the *Pædagogisk* diploma will be awarded instead of the above three diplomas. Many of these schools will change or have already changed their names to *pædagog seminarium* or *seminariet* instead of having the specific speciality in the name. (See listing of preschool and social care institutions of education at the end of this chapter, with names of the schools before the *Pædagogisk* diploma is instituted. The listing here retains the older names in order to assist in credential identification.)

Elementary and Lower Secondary Teacher Training

The Colleges of Education are public and financed by the Ministry of Education. There are 18 colleges of education in Denmark, one in Greenland, and one on the Faroe Islands. (See listing at the end of this chapter for names and addresses.) The colleges prepare students to teach in grades 1 through 10, primarily in the public elementary and lower secondary school (*folkeskole*).

Admission to the Colleges of Education is the same as for universities and other tertiary education institutions. Students must successfully complete secondary school. In the admission of students, 25% of the places available are awarded on the basis of having a sufficiently high secondary school leaving examination average. The most common exams used for admission are the *studentereksamen* and the *HF eksamen*. In recent years a "numerus clausus," or restricted admission policy has been in effect for teacher training programs. Required averages vary from institution to institution. Of the places, 75% are awarded on the basis of the result of the school leaving certificate, experience in employment, Folk High School courses, a stay in another country, and relevant experience with young people.

The 4-year academic program consists of highly integrated practical and theoretical professional preparation. The course is divided into two parts, each lasting 2 years or 4 semesters. Part I of the program is the same for all students. Subjects include Danish, handwriting, rhetoric, religious education, history/social sciences (approx. 32%); arithmetic/mathematics, and natural sciences (approx. 18%); educational sciences and psychology (approx. 20%); two of the following: music, physical education, art (20%); and practice teaching of 10 weeks (approx. 10%). Part II includes: specialist education in two major subject areas at

the elementary and lower secondary school level (approx. 60%); general didactics and educational theory (approx. 25%); and school-based teacher training of 12 weeks (approx. 15%). In addition, all students may be offered supplementary courses to ensure a common starting level in all major subjects, and a course in adult education. Teaching certificates (*Bevis for lærereksamen*) are awarded upon satisfactory completion of the program. Three types of teachers serve as instructors in the program:

1. Teachers who have become qualified by earning a university degree.
2. Teachers who have become qualified by having an advanced degree from the Royal Danish School of Educational Studies.
3. School teachers who have supplemented their education with in-service courses.

In addition to the 4-year teacher training program, the Colleges of Education also offer in-service, continuing education courses to practicing teachers.

Specialized Teacher Training

There are many specialized teacher training programs in Denmark, such as the two that follow, and it should be noted that these programs are very different in content, length of study, and admission qualifications.

Nutritional and Consumer Teachers

The 3.5 year Nutritional and Consumer Teachers program, which includes 16 weeks of practical placement, is divided into a 1.5-year Part I and a 2-year Part II course of study. The course is designed to prepare students to teach human nutrition, health promotion, environmental policy and consumer and household economics. The program also prepares counselors, consultants, and managers in the private and public sectors. Part I of the program includes nutrition and food studies, environmental studies and technology, social and consumer studies, and pedagogical studies. Part II covers supplementary subjects, special subjects that are related to specific institutions, and a major paper that requires a career related practical placement. Students specialize in one of the following fields: (1) teaching, counseling, or information; (2) product development and marketing with respect to the needs of consumers as well as industry; (3) service management with particular reference to cleaning services; or (4) human nutrition or household economics. Upon completion of the program, students are awarded the *Afgangsbevis for ernæring-og husholdningøkonomer* (Leaving certificate for Home Economist), which was formerly the *Afgangsbevis for husholdningslærer*

(Leaving Certificate for Home Economics Teacher).

To be admitted to the program a student must have completed upper secondary school or its equivalent and have the *Studentereksamen*, the *HF*, the *HTX*, or the *GIF*. The program is available at only two institutions:

Suhr's Seminarium, Pustervig 8, 1126 København K, Denmark. Phone: +45 33 12 80 53

Ankerhus Seminarium, Slagelsesvej 72, 4180 Soro, Denmark. Phone: +45 53 63 01 38

Needle-craft Teacher

A 2.5-year needle-craft teacher education is available. There are no academic qualifications. Students are admitted to the program by individual evaluation. The program includes 1 year of basic education for all students and then an additional 1.5 years when students can concentrate in youth and adult education, communication, or implementation of needle-craft. Upon completion, students are awarded the title of *Håndarbejds lærer* (Needle-craft Teacher).

The course is offered in the following schools: *Hellerup Håndarbejdsseminarium*; *Højere Håndarbejdsseminarium*; *Håndarbejdets Fremmes Seminarium*, København; *Nordjyllands Håndarbejdsseminarium*, Nørresundby; *Nykøbing F Håndarbejdsseminarium*; *Odense Fagskole og Håndarbejdsseminarium*; *Håndarbejdsseminariet v/d Den Danske Husflidshøjskole*, Kerteminde; and *Skals Håndarbejdsseminarium*.

Vocational and Technical Teacher Training

There are various ways to become a teacher in the vocational/technical education system in Denmark. The guidelines and regulations, as well as the examinations, are set by the Ministry of Education. Each type of education terminates in an examination, e.g., *handelsfaglærereksamen* (examination for business school teachers) or *pædagogisk grunduddannelse* (examination for technical school teachers).

The *Statens Erhvervspædagogiske Læreruddannelse/SEL* (State Institution for Educational Training of Vocational Teachers) was founded in 1969. *SEL* sets technical and pedagogical standards for the courses and programs of vocational education, and sets the examinations for vocational teachers in order to maintain the standards. There are six *SEL* branches throughout the country that administer the examinations.

Admission to study programs for the *Afgangsbevis for handelsfaglærereksamen* to become a com-

mmercial school teacher requires that candidates have at least 3 years of experience. Most commercial vocational teachers were practitioners in their field of specialization prior to becoming teachers. Many have gone through apprenticeship programs themselves. Holding satisfactory passes on the *HF* in mathematics and foreign languages substitutes for not having other core course requirements. Students who hold various business degrees, such as the *HD*, *HA*, *ED*, or the *translator-eksamen* (translator's exam) may also be admitted to the program.

Preparation for being a teacher in the *Handels-skoler* (upper secondary commercial schools) is accomplished through a program of theoretical pedagogical courses and practice teaching, normally of 12 to 13 months duration, but candidates take the program as it is convenient, since most are employed when they are qualifying. The program has 4 modules, each including theory and practical experience. Module 1 focuses on the role of the teacher and learning theory; module 2 on lesson planning and presentation; module 3 on self-study, learning styles, and group projects with regard to student and teacher reaction; module 4 focuses on an examination project on the school and society. There are then two major examinations in the program, one theoretical and one practical, which make up the final *Handelsfaglærereksamen*.

In order to prepare to be a teacher in a *Tekniske skoler* (technical school) or *AMU* center (labor market education center that offers retraining and special courses for unskilled workers and continuing education for skilled workers), a student must be hired by the technical school specifically for his or her technical knowledge. The pedagogical teaching qualifications are obtained through teacher training after the candidate has been hired. The teaching diploma must be obtained within 2 years of beginning teaching in the program. It is felt that vocational teachers must have an intimate knowledge of the practical production processes in industry so that they can teach students on a very pragmatic basis. Vocational training in Denmark is basically a pedagogical course supplementing the technical skills and practical work experience of workers in the field who want to become teachers. In 1989 half of *SEL*'s funding was given to these schools. Technical schools can now buy their training anywhere they wish, and some are looking to private enterprise to develop it. *SEL* still plays the key role in providing courses for upgrading vocational teachers but private companies, the schools themselves, and trade organizations can do the initial training. Different sets of modules and practice teaching are followed.

However, the basic 10 modules each have theoretical and practical sections.

Module 1 is an introduction to pedagogy and the technical educational model used in Denmark.

Module 2 is comprised of a practical training period of 21 hours spread out over a longer period of time in which the student is introduced to teaching methods, structure, organization, problem solving philosophy, etc. in the student's own school.

Module 3 is 15 days over a 3-week period in which there is the presentation and implementation of short teaching sequences.

Module 4 is 21 hours over a longer period in which planning, evaluating, and experimenting is done in a given subject matter in the student's own school. A review and analysis of the teaching methods must be made.

Module 5 concentrates on course planning and implementation of longer teaching sequences and works on report planning, technical training, introduction of projects for organizations, etc. Philosophical, sociological, pedagogical, and psychological aspects are taught.

Module 6 is again a practical training period in the student's own school to implement the information taught in module 5 and to prepare for modules 7, 8, and 9.

Module 7 requires 13 days to carry out a project over 7-8 weeks. Each candidate must prepare, implement, and evaluate a lesson plan.

Module 8 requires that a specific technical subject be taught.

Module 9 is a final project that must integrate the theoretical and practical methodology that has been learned.

Module 10 is a 10-hour practical teaching session to provide a concrete, hands-on experience using the entire program. This initial teacher training segment is 500 hours long.

These modules are followed by an oral exam based on the final project and a practical test where the candidate should plan and implement a teaching sequence and then analyze and evaluate the sequence. Certification is done by SEL, and the *Pædagogiske uddannelser af lærere ved tekniske skoler (pædagogikum)/PG* (Pedagogical Training of Technical School Teachers) is awarded.

Training for technical school teachers continues through a series of continuing education that is demand controlled and generally taught at the teaching sites. The courses offered are usually pedagogical/psychological or courses in teaching theory and methodology. SEL teachers often offer the courses or at least help design the courses.

The six *Statens Erhvervspædagogiske Læreruddannelse (SEL)* schools are:

SEL Afd. Fyn, Nørrehus, Thomas B. Thriges Gade 48, 5000 Odense C, Denmark. Phone: +45 65 91 88 68, Fax: +45 33 65 88 40.

SEL Afd. København/Sjælland, Rigersgade 13, 1316 København K, Denmark. Phone: +45 33 14 41 14, Fax: +45 33 14 42 14.

SEL Afd. Midtjylland, Ellemarksvej 28, Århus C, Denmark. Phone: +45 86 11 33 55, Fax: +45 86 11 33 36.

SEL Afd. Nordjylland, Mylius Erichsens Vej 135, 9210 Aalborg SØ, Denmark. Phone: +45 98 14 35 66, Fax: +45 98 14 60 85.

SEL Afd. Syd- og Sønderjylland, Lembekesvej 3, 6100 Haderslev, Denmark. Phone: +45 74 52 73 55, Fax: +45 74 53 22 77.

SEL, Statens Erhvervspædagogiske Læreruddannelse, Rigersgade 13, 1316 København K, Denmark. Phone: +45 33 14 41 14, Fax: +45 33 14 42 14.

Upper Secondary School Teacher Training

Upper secondary school teachers in Denmark are qualified to teach by having completed a university level degree in an appropriate subject or, normally, in two subjects. Any University *candidat* degree will qualify a teacher at the secondary level. The *candidatus/a philosophiae/cand.phil.* is the minimum official secondary teacher training qualification. The *cand.phil.* is one year beyond the *bachelorgraden* degree for a total of 4 years of study. The final year of study in the program is in one subject only, e.g., music, music therapy, languages, humanistic computer sciences. The most general qualification that teachers hold is, however, the *candidatus/a magisterii/cand.mag.* degree, which is a total of 5 years of tertiary level study. In fact, for at least the past 10 years secondary school teachers have had to have a regular *candidatus/a* or *cand.mag.* degree to qualify to teach in secondary schools (*gymnasieskoler*).

Upon completion of the *candidat* degree and after being employed, new teachers must spend their first year under supervision of a permanent teacher and take pedagogical courses that are taught in the upper secondary school in order to be certified. In some cases the theoretical component is provided by the universities, but it is still taught in the upper secondary schools. This *pædagogikum*

program ends with a written assessment by the supervisors, not with an additional diploma.

Graduate and In-Service Teacher Training

Graduate and in-service education for teachers is offered through *Danmarks Lærerhøjskole* (The Royal Danish School of Educational Studies), with eight branches around the country.

Danmarks Lærerhøjskole (The Royal Danish School of Educational Studies), Emdrupvej 101, DK 2400 København NV, Denmark. Phone: +45 31 69 66 33. Other branches are in Aalborg, Århus, Esbjerg, Haderslev, Odense, Skive, and Vordingborg.

Thirteen-thousand to 15,000 teachers annually take in-service courses given by *Danmarks Lærerhøjskole*. The courses are to update and improve information or techniques of delivery of courses and are not a part of a degree program. Annually 6,000 to 7,000 courses are offered. Admission to the graduate program requires that applicants have a degree from a 4-year teacher training program (see above) and 2 years of employment as a teacher.

The 2-year fulltime academic program leads to the *candidatus/a paedagogiae/cand.paed.* degree or to the *candidatus/a paedagogiae psychologiae/cand.paed.-psych.* degree. The program is often taken through part-time study over several years. Graduate programs are divided into two main divisions: pedagogical and psychological. The pedagogical degree can be a general educational degree or can be combined with study of a subject matter area. These areas include Danish, foreign languages, history, civics, mathematics, science, music, and arts and crafts. Upon completion of the 6-unit, 2-year degree, a student is awarded the *cand.paed.* degree. Most of the teachers who have graduated with this degree serve as school psychologists, professional consultants to colleagues, or lecturers at colleges of education.

Teachers at the Royal Danish School of Educational Studies are employed, as are teachers at all Danish universities, with a contract that indicates they must perform research as well as teach. The research performed has its focus primarily on the Danish educational system. In addition to the in-service courses and graduate programs, Study Groups are operated at the Royal Danish School of Educational Studies. These study groups consist of teachers who wish to grapple with a specific school problem. The teachers at the Royal Danish School of Educational Studies serve as consultants and of-

fer guidance and library service to the teachers who form these groups and are responsible for them.

(Additional Institutional Listings)

Preschool and Social Care Institutes of Education

Aabenraa Børnehave- og fritidspædagogseminarium, Dronning Margrethes Vej 11-13, 6200 Aabenraa, Denmark. Phone: +45 74 62 40 06.

Aalborg Børnehave- og fritidspædagogseminarium, Umanakvej 1, 9210 Aalborg, Denmark. Phone: +45 98 12 55 00. (Skipper Clement Seminariet, Hobrovej 85.)

Aalborg socialpædagogiske Seminarium, Odinsgade 21, Postbox 2015, 9100 Aalborg, Denmark. Phone: +45 98 12 03 11.

Århus socialpædagogiske Seminarium, Finsensgade 14, 8000 Århus C, Denmark. Phone: +45 86 12 81 77.

Bagsværd socialpædagogiske Seminarium, Skolesvinget 8, 2860 Søborg, Denmark. Phone: +45 31 56 12 11.

Ballerup Seminariet, Linde Allé 18, 2750 Ballerup, Denmark. Phone: +45 42 65 15 55.

Frøbel-Højskolen, Ibsgården 222, Himmelev, 4000 Roskilde, Denmark. Phone: +45 42 36 70 10.

Frøbelseminariet for Børnehave- og fritidspædagogseminarium, Grundvigsvej 11, 1864 Frederiksberg C, Denmark. Phone: +45 31 31 38 37.

Gedved Statsseminarium, Egebjergvej 1, 8751 Gedved, Denmark. Phone: +45 75 66 52 00.

Gentofte Socialpædagogiske Seminarium, Hartmannsvej 22, 2900 Hellerup, Denmark. Phone: +45 31 62 87 76.

Haderslev Statsseminarium, Socialpædagogisk Afdeling, Lembkevej 3-7, 6100 Haderslev, Denmark. Phone: +45 74 52 21 68.

Hindholm Socialpædagogiske Seminarium, Hindholmvej 19, 4250 Fuglebjerg, Denmark. Phone: +45 55 45 30 62.

Hjørring Seminarium, Skolevangen 45, 9800 Hjørring, Denmark. Phone: +45 98 92 69 00.

Højvangsseminariet, Skolevej 6, 2600 Glostrup, Denmark. Phone: +45 43 44 66 67.

Højvang Børnehaveseminariet, Glostrup. Landevej 25, 2620 Alberstslund, Denmark. Phone: +45 42 45 62 66.

Holstebro Børnehaveseminarium, Struervej 91, 7500 Holstebro, Denmark. Phone: +45 97 41 06 00.

Ikast Seminariet, Sjællandsgade 4, 7430 Ikast, Denmark. Phone: +45 97 15 28 66.

Jægerspris socialpædagogiske Seminarium, Kulhusvej 4-6, Postbox 19, 3630 Jægerspris, Denmark. Phone: +45 42 53 10 36.

Jelling Statsseminarium, Socialpædagogisk Afdeling, Vejlevej 2, 7300 Jelling, Denmark. Phone: +45 75 87 19 00.

Jydsk Børnhave Seminarium, Skejbyvej 29, 8240 Risskov, Denmark. Phone: +45 86 21 75 00.

Jydsk Fritidspædagog Seminarium, Skejbyvej 29 8240 Risskov, Denmark. Phone: +45 86 21 01 66.

Kolding Børnhave Seminarium, Dyrehavevej 116, 6000 Kolding, Denmark. Phone: +45 75 53 02 33.

Københavns Børnehaveseminarium, Strandvejen 93, 2100 København Ø, Denmark. Phone: +45 39 29 50 22.

Københavns Fritidspædagog Seminarium, Linde Allé 51, 2720 Vanløse, Denmark. Phone: +45 31 74 45 12.

Københavns Socialpædagogiske Seminarium, Sydhavns Plads 4, 2450 København SV, Denmark. Phone: +45 31 24 51 55.

Nykøbing F. Børnhave- og fritidspædagogseminarium, Dronningensgade 24, 4800 Nykøbing F, Denmark. Phone: +45 54 85 46 11.

Odense Børnhave- og fritidspædagogseminarium, Munkebjergvænget 7, 5230 Odense M, Denmark. Phone: +45 66 15 73 03.

Odense Socialpædagogiske Seminarium, Rømersvej 3, 5200 Odense V. Twel, Denmark. Phone: +45 66 16 70 70.

Pædagogseminariet i Hillerød, Frederiksvæks-gade 150, 3400 Hillerød, Denmark. Phone: +45 42 26 74 86.

Ranum Statsseminarium, Seminarievej 23, 96581 Ranum, Denmark. Phone: +45 98 67 63 44.

Seminariet i Esbjerg, Skolebakken 171, Post-bok 2023, 6705 Esbjerg Ø, Denmark. Phone: +45 75 14 16 88.

Seminariet på Amager, Løjtegårdsvej 167, 2770 Kastrup, Denmark. Phone: +45 31 51 33 55.

Skovtofte Socialpædagogiske Seminarium, Hummeltoftevej 145, 2830, Virum, Denmark. Phone: +45 42 85 25 11.

Slagelse Børnhave- og fritidspædagogseminarium, Ingemannsvej 17, 4200 Slagelse, Denmark. Phone: +45 53 52 51 11.

Viborg Seminarium, Reberbanen 13, 8800 Viborg, Denmark. Phone: +45 86 62 42 00.

Colleges of Education Offering Training for
Elementary and Lower Secondary Teachers

Aalborg Seminarium, Mylius Erichsens Vej
131, 9210 Aalborg SØ, Denmark. Phone:
+45 98 14 02 00.

Århus Fællesseminarium, Trøjborgvej 82, 8200
Århus N, Denmark. Phone: +45 86 16 02 00.

Blaagaard Statsseminarium, Mørkhøj Par-
kallé 5, 2860 Søborg, Denmark. Phone: +45
44 94 32 22

Frederiksberg Seminarium, Nyelandsvej 27,
2000 Frederiksberg, Denmark. Phone: +45
31 86 51 11.

Haderslev Statsseminarium, Lembekesvej 7,
6100 Haderslev, Denmark. Phone: +45 74 52
61 17.

Haslev Seminarium, Søndergade 12, 4690
Huslev, Denmark. Phone: +45 56 31 20 14.

Hjørring Seminarium, Skolevangen 45, 9800
Hjørring, Denmark. Phone +45 98 92 32 66.

Holbæk Seminarium, Seminarieparken 2,
4300 Holbæk, Denmark. Phone: +45 53 43
30 65.

Jelling Statsseminarium, 7300 Jelling, Den-
mark. Phone: +45 75 87 16 00.

Københavns Dag- og Aftenseminarium, Ejbyvej
25 - 43, 2740 Skovlunde, Denmark. Phone:
+45 42 91 52 33.

N.Zahles Seminarium, Nr. Voldgade 5, 1358
København K, Denmark. Phone: +45 33 32
00 56.

Norre Nissum Seminarium, Svinget 5, Nr.
Nissum, 7620 Lemvig, Denmark. Phone:
+45 97 89 12 22.

Odense Seminarium, Middelfartsvej 180, 5200
Odense V, Denmark. Phone: +45 66 16 94
32.

Ribe Statsseminarium, Simon Hansensvej 1,
6760 Ribe, Denmark. Phone: +45 75 42 01 88.

Silkeborg Seminarium, Nattergalevej, 8600
Silkeborg, Denmark. Phone: +45 86 82 00 88.

Skive Seminarium, Dalgas Allé 20, 7800
Skive, Denmark. Phone: +45 97 52 17 66.

Skårup Statsseminarium, Kirkebakken 4,
5881 Skårup Fyn, Denmark. Phone: +45 62
23 12 55.

Vordingborg Statsseminarium, Kuskevej 1, 4760
Vordingborg, Denmark. Phone: +45 53 77 03
04.

Handelsfaglærereksamen i engelsk

Cpr. nr. _____ Eksamens nr. _____

har i _____ bestået handelsfaglærereksamen i engelsk jfr. bekendtgørelse
nr. 428 af 27. april 1987 og har herefter ret til at kalde sig handelsfaglærer.

Karakter

Oversættelse fra dansk til engelsk af en tekst med alment indhold	skriftlig prøve	_____
Oversættelse fra engelsk til dansk af en sagprosa tekst	skriftlig prøve	_____
Oversættelse fra dansk til engelsk af handelskorrespondance	skriftlig prøve	_____
Fonetik	skriftlig prøve	_____
Forståelse af en opgiven skønlitterær tekst eller af en opgiven sagprosa tekst	mundtlig prøve	_____
Forståelse af en opgiven erhvervsfaglig tekst	mundtlig prøve	_____
Grammatik	mundtlig prøve	_____
Udtryksfærdighed, udtale og intonation	mundtlig prøve	_____
Handelslære, obligatorisk støttefag	mundtlig prøve	_____
Samfundsøkonomi, obligatorisk støttefag	mundtlig prøve	_____
Teoretisk pædagogikum	mundtlig prøve	_____
Praktisk pædagogikum	mundtlig prøve	_____

Ikke bedømte discipliner bortfalder, da eksaminanden _____

København, den _____

Rektor

Eksamenssekretariatet

Ved bedømmelse af de ved Statens Erhvervspædagogiske Læreruddannelse aflagte prøver anvendes den i undervisningsministeriets bekendtgørelse nr. 148 af 5. april 1971 om karaktergivning ved de højere uddannelsesinstitutioner omhandlede karakterskala, 13-skalaen. For at bestå handelsfaglærereksamen kræves mindst karakteren 6 i hver af prøverne.

Ved prøven i praktisk undervisningsfærdighed benyttes bedømmelsen bestået/ikke bestået.

Document 8.1 *Handelsfaglærereksamen, engelsk* (Business subject examination in English)

STATENS ERHVERVSPÆDAGOGISKE LÆRERUDDANNELSE



**Den pædagogiske uddannelse af lærere
ved tekniske skoler (pædagogikum)**

Cpr. nr.

har bestået den teoretisk pædagogiske prøve i

bestået prøven i praktisk undervisningsfærdighed i

på

Uddannelsen er gennemført i henhold til Undervisningsministeriets bekendtgørelse nr. 351 af 28. juni 1982.

København, den ..

Rektor

Eksamenssekretariatet

Chapter 9

Internationalization and Study Abroad

Overview

Until the mid-1980's there was relatively little difficulty in advising U.S. students who wished to study abroad in Denmark. The Danish education system was uniform, small, self-contained, elitist, and most often taught only in Danish, a language difficult to learn and little used in many places outside Denmark itself. There was a very narrow range of study choices for students from abroad unless they mastered the language prior to beginning. Even if students became fluent in Danish, academic preparation and the focus of Danish students in the *candidatus* programs was and still is very highly specialized, and thus frequently did not meet the needs of U.S. students wishing to study abroad. If foreign students hoped to study in Danish tertiary institutions, they needed to be superior academically, have mastered the Danish language, be able to focus on a single subject rather than a variety of subjects, and spend at least a year in Denmark in order to take end-of-year examinations. Very few U.S. students attempted to study in Denmark under these conditions. The Danish education system has, on the other hand, a long history of accepting individual U.S. graduate students on research projects at the doctoral and postdoctoral levels, particularly in the sciences.

For many years there have been a few study abroad programs taught in English. Among the largest and most established is Denmark's International Study Program (DiS), founded in 1959. Affiliated with the University of Copenhagen, DiS offers courses on a semester or year basis using Danish faculty in a U.S. format. Alternatively, the American Saint Cloud State University program at Aalborg University is primarily a language and culture program administered by a center for Danish studies in the U.S. In addition, some independent study courses were arranged through programs such as the Scandinavian Seminar.

With recent structural changes in the Danish education system, such as the development of the 3-year *bachelorgraden*, new business and foreign language programs, the internationalization of the

curriculum, and the newer interdisciplinary universities, more possibilities have opened up for U.S. students who wish to study in Denmark. In addition, changes in educational mobility within the European Community have increased the flexibility of the institutions and also created new opportunities for international students to study in Denmark.

While it may have been difficult for English-speaking students to find a way to study in Denmark, students from the other Nordic countries have moved rather freely between institutions in the five Nordic Council countries (Denmark, Finland, Iceland, Norway, and Sweden). There is a long tradition of Norwegian students studying in Denmark for a full degree, particularly in the field of medicine. The Nordic Council, founded in 1952, has resulted in agreements that allow citizens of the five countries to travel freely across their borders. Joint research is undertaken in numerous fields, and there are many shared educational projects. For example, strong institutions have been chosen in each country to be labeled "Nordic Schools," such as The Danish School of Journalism in Århus. At these institutions specialized courses are open to citizens of any of the countries and Nordic students may enroll without charge in any of the tertiary institutions within the Nordic area. There is not, however, routine recognition of academic qualifications by educational institutions. Individual determinations are made as to whether credit will be awarded for study, certificates, or degrees awarded in the other Nordic countries.

Student/Faculty Mobility

The Nordic Programme for the Mobility of University Students and Teachers (NORDPLUS) was developed by the Nordic Council of Ministers in 1988. The goals are to promote intensive and wide-ranging cooperation among the universities with a view to establishing a Nordic educational community, to substantially increase the number of university students carrying out integrated and fully recognized periods of study in another Nordic

country, and to encourage mobility in the teaching staff. NORDPLUS provides grants for fulltime studies on the undergraduate level for up to 1 academic year with full credit given at the home university. Financial grants supplement the regular study grants provided in each country to facilitate the stay in the second country.

Slightly earlier than the development of the NORDPLUS program, Denmark, as a member of the European Community (EC), later the European Union (EU), became very involved with cooperative mobility programs in higher education. Denmark took an active role in such programs as the Community Action Program for Education and Training for Technology (COMETT), established in 1986, and the European Community Action Scheme for the Mobility of University Students (ERASMUS). ERASMUS was established in 1987 with the goal of moving students around the EC so that a commonly educated and linguistically talented work force would exist to support the creation of a single common market. COMETT had five objectives: (1) development of business/ higher education networks for training; (2) trans-national exchanges of students and business personnel (50% of all COMETT funding was put into this objective); (3) development of joint business/higher education projects to promote continuing education; (4) development of multilateral initiatives to perfect training in multimedia systems (satellite, radio, etc.); and (5) establishment of information and evaluation systems to promote the COMETT program.

ERASMUS was initiated to promote student and faculty exchanges among the EC universities and schools of advanced study by encouraging them to identify common programs and allowing students to pursue their studies in other EC institutions without penalty (in other words, receiving credit, or recognition for work while not in their home institution). Objectives include establishing a European higher education network with financial aid to students who spend a recognized period of study (3 to 12 months) in another EC country; providing scholarships for travel and language preparation; assisting in developing conferences, publications, and interuniversity cooperation; and supporting the European Community Course Credit Transfer System (ECTS).

ECTS was introduced as a pilot project for 6 years in 1989. The program allows students at over 80 universities and other higher education institutions in Europe, including some in Denmark, to study in more than one country and still obtain their degree in the recognized time period through a system of transfer of course units. It is hoped that

the experience with ECTS will become generalized and institutions will allow transfer credit for work done outside their own institutions. While the results of this pilot project are not fully known, it may make European education more flexible. A credit transfer system between Danish institutions is currently being discussed.

Danish institutions and educators have expressed great interest in taking part in these programs and in many cases have embraced "internationalism." The EC programs have had a significant effect on the Danish educational system. Some tertiary level institutions have developed programs with European colleagues, and networks have been formed so that not only do Danish students study in other European countries, but other European students are now studying all over Denmark. In order to accomplish the latter, Danish institutions are offering some of their courses and even a few programs in English. Many ERASMUS programs are mentioned in the profiles of institutions elsewhere in this volume. A comprehensive listing of these programs is not possible because of the flexibility that ERASMUS offers by linking institutions and forming networks. The programs range from a series of spring semester offerings at one institution to full joint degree programs. These programs are integral to each institution and a regular part of the curriculum. These changes over recent years have to some extent opened Danish institutions to students from abroad.

"Learning Danish" Programs

Along with the success of the EC educational mobility programs, Danes have begun to teach much more Danish to students from abroad. For example, the University of Copenhagen now offers an intensive 8-week program of Danish, a 3-week pre-semester language program and an "Orientation and Introduction to Danish Culture and Society" course. These types of offerings are available at some tertiary institutions that accept international students. Tapes, videos, and electronic communication are all featured in a project to teach European students some Danish prior to their arrival for study. This project is sponsored by the Department of Philology of the University of Copenhagen, the Copenhagen Business School, the Royal Danish School of Educational Studies, and IBM Danmark, funded by the institutions, LINGUA (EC grant program for foreign language teaching), and the Danish Department of Education.

These EC programs translate into increased opportunities for U.S. students wishing to study in

Denmark. Danish institutions have developed infrastructures to support visiting foreign students and are recruiting students to their programs. U.S. study abroad advisers who have experienced the traditional Danish educational system should be aware not only of the structural changes in the system, but also of the impact of the EC programs on Danish education. The educated Dane's ability to speak fluent English should not be underestimated. In some institutions, if a native English speaker enrolls in a class, the medium of instruction may be changed to English. Danish educators see this as another way to "internationalize" the Danish students in the classroom.

An example of institutional course offerings in English is the University of Aalborg offering of an "International Business Economics Programme for Foreign Students." Along with business courses that focus on Scandinavia, Europe, and international business strategy, students study Danish and do project work typical of the interdisciplinary approach at Aalborg. Examinations are given at the end of the semester and marks are recorded on an Aalborg transcript.

Roskilde University cooperates in offering a Master's Degree in European Social Policy Analysis, a joint degree program with the University of Crete, the Universidade Técnica de Lisboa, the University of Bath, St. Patrick's College, Maynooth, Ireland, Tilburg University, Germany, and the Universidad Complutense de Madrid. The program is offered in English and students from schools other than the sponsoring institutions may join the course of study, and study at more than one of the cooperating institutions. The final transcript for the master's degree is written in English and has notations on it from the various schools that the student attended. This is an example of an ERASMUS degree program.

Opportunities for U.S. Students to Study in Denmark

Direct Entry into Danish Institutions

There are numerous opportunities for students who wish to study in Denmark, but the structure of the educational system, the difference in the academic year, the comprehensive nature of examinations, and the fact that most courses are taught in Danish must be carefully considered. While a listing of all the opportunities offered by Danish institutions for U.S. study abroad students is not provided here, at the end of each institutional profile there is a section about Special Programs and/or an indication of programs whose language of instruction is English.

Each Danish University and specialized institution has specific guidelines for admitting foreign "guest" students, or occasional students. In most cases institutions will accept students on a semester or year basis as guest students, but not for more than 1 year. U.S. students are generally not accepted unless they have completed 2 years of study in a U.S. college or university, or unless they have completed an Associate of Arts or Sciences degree program at a junior or community college. If students wish to study for a Danish degree, or attend classes in Danish, they are required to take a Danish proficiency examination. There is a national Danish language examination held twice a year, in January and again in May or June. For further information, students should contact individual institutions.

It is not the norm for Danish institutions to have residential facilities, although most institutions have some limited special arrangements for visiting international students. The cost of living is high in Denmark and work permits, which must be issued by Danish embassies abroad prior to the period of study, are almost impossible to obtain.

The "guest" student category offers interesting opportunities for U.S. students, who may be able to enter "European" programs taught in English, or be able to take special courses taught in English at the institution (see institutional profiles). It is important for U.S. students to be evaluated by their Danish instructors and to take examinations at the end of each course. Special arrangements may have to be made if students attend institutions for fall semesters only, since examinations are given in December, and also in January, when a U.S. student would typically have returned to the U.S. institution. This is not a problem for students who study abroad for a full year or for the spring semester. Danish institutions will provide transcripts and in some cases a *Diplom* for completion of specific courses or programs.

Study Abroad Programs in Denmark

There are several study abroad programs in Denmark that are designed for U.S. or international students, as described below. More complete information may be obtained by contacting the institutions directly.

Folkehøjskoler (Folk high schools), sometimes translated as "colleges," admit students with diverse backgrounds and interests into curricula stressing cultural and social problems. Subjects of study include art, civilization/culture, crafts, music, social problems, and sports. All schools are residential.

Folkehøjskolernes Sekretariat, Farvergade 27, Opg G, DK-1463, Copenhagen K. Tel: +45 33 13 98 22, Fax: +45 33 13 98 70.

Location: Throughout Denmark, usually in rural areas.

Dates: Courses vary in duration from 1 week to 10 months.

Eligibility: 18 years of age.

Language of Instruction: Usually in Danish, though the *folkehøjskole* in Helsingør offers instruction in English.

Credit: Only if offered through home institution.

Financial Aid: Foreigners who study Danish at their home university can obtain a Danish government grant for courses lasting a minimum of 16 weeks. Fluency in Danish must be attested to by a professor in the home institution.

Contact: Address above. Note: The Scandinavian Seminar sponsors *folkehøjskole* programs for U.S. students who do not speak Danish.

Denmark's International Study Program (DiS), Vestergade 7, DK-1456 Copenhagen K, Denmark. Phone: +45 33 11 01 44, Fax: +45 33 93 26 24. E-mail/Bitnet: DDISAU@vm.uni-c.dk

Denmark's International Study Program (DiS) is affiliated with the University of Copenhagen and recognized by the Danish Ministry of Education. A consortium of U.S., Canadian, and Australian universities participates in DiS.

Location: Copenhagen

Dates: Fall: September-December; spring: January-May; also short summer courses.

Eligibility: Programs are designed for juniors and seniors with appropriate major. Normally a B average (3.0 on 4.0 scale) is required for admission. Admission is competitive through 70 U.S., 4 Canadian, and 6 Australian universities and colleges, with credit transfer to home university.

Language of Instruction: English.

Areas of Instruction: Humanities and Social Sciences, International Business, Architecture and Design, Engineering and Marine Environmental Studies. Curriculum focus is on academic courses and fields that can be studied better in Denmark than elsewhere. Danish language instruction is encouraged.

Credit: In Humanities and Social Sciences, International Business, and Marine Environmental Studies, the normal load for students is five 3-credit courses per semester. The minimum course load is 12 semester hours. In Architecture and Design course structure is slightly different but students may still earn 12-15 credits per semester. DiS issues a transcript.

Study Tours: Study tours are part of the comprehensive tuition fee (except to Russia). Tours are to Western Europe, East Central Europe, Western Denmark, and the former CIS states.

Housing: Homestays or student housing.

Financial Aid: Contact home institution. Fees are comprehensive except for transatlantic transportation, certain meals required during study tours, and certain study tours. DiS scholarships are available.

Contact: Study Abroad, or International Programs Office in U.S. institution, or DiS in Copenhagen (address above).

International People's College, 1 Monte-bello Allé, DK-3000, Helsingør. Phone: +45 49 21 33 61, Fax: +45 49 21 21 28.

Location: Helsingør

Dates: September-December; February-May.

Eligibility: Must be 19 years of age. No academic requirements.

Language of Instruction: English.

Credit: No U.S. accredited sponsor. Administered with the cooperation of the Ministry of Culture.

Subjects: Crafts, drama/theater, ecology/environmental studies, economics, European studies, intercultural studies, international studies, journalism, music, music history, peace studies, political sciences/politics, religion/theology, sociology, and Third World studies.

Housing: Arranged in furnished rooms.

Contact: International People's College (above).

University of Massachusetts, William S. Clark International Center, University of Massachusetts, Amherst, MA 01003. Phone: (413) 245-2710.

Scandinavian Seminar and University of Massachusetts at Amherst: A 1-semester program on Nordic and Global Issues offered at the International People's College through the cooperation of the Scandinavian Seminar and the University of Massachusetts at Amherst.

Location: International People's College, Helsingør or Vejle; Host Institution: Askov Folk College.

Dates: August-December or January-May.

Eligibility: Must be 18. Sophomores, juniors, and seniors are eligible.

Language of Instruction: English and Danish. Format: language study and lectures for international students.

Credit: 15 semester hour undergraduate credits.

Housing: Arranged by program in residence halls.

Contact: International People's College in Denmark, or the University of Massachusetts at the address above.

Kalo School of Languages, Sproghøjskolen Pa Kalo, DK-8410, Ronde, Denmark. Phone: +45 86 37 12 08.

Location: Ronde

Dates: 18-19 weeks, October-February or March-July. Duration: 1 or more terms.

Eligibility: 17 years of age.

Language of Instruction: Danish. Students: international.

Subjects: Danish language (beginning/intermediate/advanced), liberal arts.

Credit: Not for credit.

Housing: Arranged by program: residence halls, or homestay.

Contact: Kalo (above).

Study Abroad Publications

Each year the American-Scandinavian Foundation publishes "*Study in Scandinavia*," that provides a wide overview of programs available, both academic and non-academic. It can be obtained by contacting The American-Scandinavian Foundation, 725 Park Avenue, New York, New York 10021. Phone: (212) 879-9779, Fax: (212) 249-3444.

The Institute of International Education (IIE) annually publishes "*Vacation Study Abroad*" and "*Academic Year Abroad*." Both of these publications list all study abroad programs available, including programs administered by U.S. institutions, and are good sources of information about study abroad programs in Denmark. Contact IIE at 809 United Nations Plaza, New York, New York 10017. Phone: (212) 984-5410.

Danish Students Wishing to Study in the U.S.

There are two comprehensive foundations that assist Danish students in finding appropriate

institutions in that to study in the U.S., both private and non-profit.

Danmark-Amerika Fondet, (Danish-American Foundation (DAF), Dronningens Tvær-gade 44, 1302 København K, Denmark. Phone: +45 33 23 90 22.

The DAF primarily assists Danish graduates of upper secondary schools with undergraduate admission and some students with graduate admission, and places trainees in the United States for further education in various vocational and commercial fields. The DAF provides counseling about study possibilities and financial assistance in higher education and business fields, and maintains university catalogues and microfiche files concerning U.S. institutions of higher education. They also have information concerning obligatory examinations.

Kommission for Uddannelsesudveksling Mellem Danmark og de Forenede Stater (Commission for Educational Exchange Between Denmark and the United States of America), Fiolstræde 10, 2.sal, 1171 København K, Denmark. Phone: +45 33 12 82 23, Fax: +45 33 32 53 23.

The Commission maintains a library and resources for Danish students interested in studying in the United States. A counseling staff is available to assist students. Fulbright grants are administered through this Commission and students who are selected for Fulbright sponsorship at the Ph.D. level frequently receive a Danish Research Academy fellowship as well. The Commission is also involved in teacher and faculty exchanges between the United States and Denmark.

Chapter 10

Guidelines For Admissions Officers

General Advice

In reviewing Danish academic credentials with the aid of this volume and the Council approved recommendations at the end of this chapter, it is important to understand the text related to each placement recommendation before applying it. In addition to consulting the recommendation, it is also important to review the quality of the work performed by the applicant presenting the credentials. Those who follow the academic track in Danish upper secondary schools and who go on to university represent a group of classically educated students with much strength in foreign languages and whatever optional courses they took at high level for the *Studentereksamen*. They should be encouraged to apply for institutional credit by examination or take other U.S. national credit-bearing examinations, such as AP and CLEP, if the quality of their work so indicates.

Translations

English is a widely spoken second language taught from the fifth grade in all institutions in Denmark. Until recently the Danes were taught British English and so British terminology is often found in translations of educational terms; for example, a school year is often referred to as a "form" rather than the U.S. term "grade." An overlay of the British educational system is often inserted in translations. For example, *Udvidede Afgangsprøve* is most commonly translated as "Advanced Leaving Examination," when in fact the literal translation that accurately defines the Danish examination given at the end of grade 10 is "Extended Leaving Examination." The word "eksamen" in Danish is literally translated in many ways: "examination," "degree," "diploma," or "certificate." A diploma showing a specific "eksamen" can be either a statement of examination marks or the credential indicating completion of a course of study. For example, *Handelsvidenskabelig Afgangseksamen* is the name of the final credential awarded for completion of a 3-year course of study

in the field of business administration, and is accurately translated as "Commercial Sciences Leaving Diploma." Because English is commonly used in Denmark, much material is translated into English, but the translations are not always consistent. A "fakultet" may be translated as "faculty" or as "school," and both are correct.

Some educational words that do not have English translations present unique problems. For instance the word *candidatus* does not have an English equivalent that is applicable to other educational systems. The Danes have translated the word as "Graduate" and "Graduate" actually appears on English translations of diplomas.

Abbreviations

The Danes have made Latin their own language in the issuance of tertiary credentials. The degrees in tertiary education do have formal Latin names, but are commonly referred to in Denmark using an abbreviated terminology, such as "*cand.-phil.*" and the abbreviation may even appear on the final degree document rather than *candidatus philosophiae*.

Because abbreviations are so commonly used, they are consistent, but the Danish translations of the abbreviations are not always consistent. For example, an *HA* may be a *Handelsvidenskabelig Afgangseksamen* or an *Handelshøjskolen Afgangseksamen*. Both translations indicate completion of a tertiary 3-year course of study. The first indicates the type of study, business science; the second, the type of school or business school in which it was taken.

Spelling

The Danish alphabet has a few letters not found in the English alphabet (*æ*, *ø*, and *å*). In the Danish dictionary they come at the end of the alphabet after "z" and are alphabetized within words in a similar manner. The *å* is actually used instead of *aa* in modern Danish. Words that have an *aa* in them may appear in either form, e.g., *Aarhus* and *Århus*, which are the same word. There are no rules as to which form of the word to use.

Nomenclature of Degrees

As noted, abbreviations are often used that may be written on diplomas and certificates in more than one way. In addition, a type of education is often described, so that an *HA* may be referred to as *den almene erhvervsøkonomiske uddannelse* (the general education in business economics). This broad use is seen more frequently in business education. The institutional profiles note both types of nomenclature.

Grading

The Council did not review or approve grade equivalencies for Danish tertiary institutions, but following are the authors' own suggested U.S. equivalents to the Danish tertiary grading scale:

Danish	Suggested U.S. Equivalent	
13		
11	Very Good	A
10		
9		
8	Good	B
7		
6		C
5	Less satisfactory	F (D)
3		F
0		

The authors do not feel that the Danish grading scale should be broken down into any more specific categories than in the original scale. To indicate that a 9 is an A- or a B+ or that a 7 is a B- or a C+ would indicate much more specificity than is possible since no true statistical analysis is available. The mark of 6 is an obvious U.S. mark of C, since it is the mark required for successful completion of an academic program and is usually described as the lowest passing mark. A 5 is usually an F unless it is allowed to be used in a cumulative average to obtain an average mark of 6 or higher. A grade of 13 is close to unobtainable except at The Technical University of Denmark (see Chapter 6).

Special Notes

Technical University of Denmark

The name of the Technical University of Denmark officially changed in April 1994 from *Danmarks Tekniske Højskole* to *Danmarks Tekniske*

Universitet. The official English name did not change. Admissions officers will see both names. The institution is still referred to as *DTH*. There remain many references in the text to the old name.

Business Diplomas and Certificates

In the early 1990's many new business programs, such as the *Markedsøkonom* (Market Economics), were created to upgrade the business skills of practicing professionals. These programs turned out to be very popular with students just completing *Folkeskoler*, as well as for professionals. Originally there were no specific admission requirements. In practice, most students have completed upper secondary school programs.

Other programs, such as the *Handelshøjskole Diplomeksamen/HD*, are older, but these were designed to be independent programs for professionals already in the field of business. The *HD* is divided into 2 parts. Part I requires a *Studentereksamen* or completion of an apprenticeship of at least 3 years for admission; Part II requires completion of Part I, or an *HA*, or in some cases a *Markedsøkonom*. Each of the admission requirements for Part II represent very different training. The different admission requirements indicate very strongly that this is a stand-alone professional program, not in sequence with other academic programs. Because of the complex nature of the various business courses, the text should be carefully reviewed to gain an understanding of each program.

Useful Resources

Commission for Educational Exchange Between Denmark and the United States of America
Fulbright Kommissionen
Piolstræde 10, 2 sal
1171 København K,
Denmark

Danish Information Office
3200 Whitehaven Street, N.W.
Washington, DC 20008

Danmark-Amerika Fondet
Dr. Tværgade 44
1302 København K,
Denmark

Direktoratet for Udlændinge
(Director for Aliens)
Absalongade 9
1658 København K,
Denmark

Styrelsen for Statens Uddannelsesstøtte/SU
(Directorate for State Educational Support)
Danasvej 30
1910 Frederiksberg C,
Danmark

The American-Scandinavian Foundation
725 Park Avenue
New York, New York 10021

Undervisningsministeriet
(Education Ministry)
Frederiksholms Kanal 21
København K,
Danmark

The Role of the National Council on the Evaluation of Foreign Educational Credentials

The National Council on the Evaluation of Foreign Educational Credentials (the Council) is an interassociational group that provides guidelines for interpreting foreign educational credentials for the placement of holders of these credentials in U.S. educational institutions. Its main purpose is to review, modify, and approve placement recommendations drafted for publication used by the U.S. admissions community. The Council also helps establish priorities, research guidelines, and

review procedures for international admissions publications. The Council participates in international meetings that involve foreign educational credentials for the purpose of international exchanges of students and scholars. The membership of the Council reflects the diversity of U.S. educational institutions for which recommendations are made (see page at end of this volume for a listing of Council member organizations and their representatives).

The placement recommendations approved by the Council identify the level or stage of education represented by an educational credential and thus the appropriate placement of the holder of the credential in U.S. educational institutions. Council recommendations are not directives, nor do they make judgments about the quality of programs and schools. Quality indicators may be provided by the author in the text. The effective use of placement recommendations depends on careful review of the supporting text in the publication and consideration of individual institutional placement policies and practices.

The Council suggests that institutions apply the same standards for a foreign applicant as for a U.S. applicant with a similar educational background. Recommendations reflect U.S. philosophy and structure of education and so may differ from the practices of the educational system being reviewed.

Guide To The Understanding of Placement Recommendations

Secondary

May be placed in grade ...

This recommendation is used if freshman admission cannot be recommended, but specific secondary school placement is suggested by the total years of primary and secondary school studies represented by the credential.

May be placed in grade 10 or 11, depending on coursework completed in the tenth-year program.

This recommendation warns the evaluator that the tenth-year program represented by this credential is either at the level of ninth or tenth grade. A review of the syllabus will assist in determining appropriate placement.

Primarily a vocational qualification.

This statement is used for credentials awarded for secondary nonacademic training programs in specific job-related fields (e.g., apprenticeships). Admission does not usually require a specific background. The credentials do not give access to higher education.

May be considered for freshman admission if a vocational (technical, specialized) program is appropriate preparation.

This recommendation suggests the specialized nature of the curriculum followed. The wording further suggests that within the foreign educational system the educational opportunities open to holders of the credential in question may be limited to some post secondary, usually nonuniversity, options.

May be considered for freshman admission.

This recommendation is for graduates of academic, university-preparatory secondary school programs and other programs that can be considered for freshman admission without reservations or qualifiers.

May be considered for freshman admission; may receive advanced placement or transfer credit based on AP, CLEP, or equivalent U.S. examination.

This recommendation suggests that any advanced placement or transfer credit awarded for the credential should be validated by nationally standardized examinations for which U.S. institutions have already established policies.

Admission and placement should be based on other credentials.

This recommendation suggests that U.S. evaluators base their admissions decision on secondary credentials earned in the country of origin.

Undergraduate

Primarily a vocational qualification; admission and placement should be based on other credentials.

This recommendation is used for credentials awarded for postsecondary nonacademic training programs in specific job-related fields. The credential does not give access to further study in the home country; admissions decisions should be based on other credentials.

A professional qualification; admission and placement should be based on other credentials.

This recommendation is used for specific studies in professional fields. The credential, by itself, does not give access to further study in the home country; admissions decisions should be based on other credentials.

May be considered for undergraduate admission with up to ... year(s) of transfer credit, determined through a course-by-course analysis.

This recommendation sets the maximum amount of credit, depending on the length of

study, for a university program. The phrasing "course-by-course analysis" asks the evaluator to look carefully at course contents, such as course descriptions from catalogues, in order to determine the appropriateness of transfer credit.

May be considered for undergraduate admission with up to ... year(s) of transfer credit determined through a course-by-course analysis. Because of the specialized nature of the program, the syllabus should be reviewed carefully.

This recommendation asks the evaluator to look very closely at the course contents because of the specialized nature of this nonuniversity program. Given this precautionary statement, the evaluator should try to obtain additional information about the program: e.g., course content, program requirements, time allocated for practical training, and profile of the school attended.

May be considered for undergraduate admission with transfer credit awarded on the same basis as for students of ... (U.S. hospital schools of nursing, U.S. schools of art, U.S. seminaries, U.S. schools of music and performing arts, U.S. schools of music).

This recommendation can be used for hospital-based nursing; art schools, music schools, or performing arts schools; and seminaries that are comparable to these categories of schools in the U.S. for which specific admissions policies are used.

Represents completion of undergraduate teacher education courses.

By utilizing this statement, the Council is providing descriptive information only, not a placement recommendation. Evaluators should follow the practice employed at their institutions for similar undergraduate teacher education courses.

Represents the completion of a specialization in ... (e.g., military science, nursing, graphic arts, the field).

By utilizing this statement, the Council is providing descriptive information only, not a placement recommendation. Evaluators should follow the practice employed at their institutions for similar undergraduate study.

Graduate or Advanced Professional Admission

May be considered for graduate admission.

This recommendation is used if the program of study is considered to provide adequate preparation for graduate study, without reservation or qualifiers. Normally such a program represents a total of 16 years of education and gives access to graduate education within the foreign system. This recommendation may be used for programs requiring more than 16 years of study if no graduate transfer credit is recommended.

May be considered for graduate admission in a closely related field if the specialized nature of the program followed is appropriate preparation.

This recommendation is used for programs that are generally comparable to U. S. bachelor's degrees but the curriculum is specialized in nature and provides limited or no access to more advanced study in the home country.

May be considered for graduate transfer credit determined through a course-by-course analysis.

In this recommendation, the phrasing "course-by-course analysis" asks the evaluator to look carefully at course contents, such as course descriptions from catalogues, to determine the appropriateness of graduate transfer credit.

May be considered for graduate admission as are graduates of ... (U.S. schools of art, U.S. schools of music).

This recommendation is used for art and music credentials that are awarded for the completion of programs of sufficient intensity to be considered comparable to what is required for the completion of a degree program at an American art or music school. The evaluator is directed to look at the credentials in terms of institutional policy for the admission of graduates from analogous schools in the U.S.

May be considered comparable to a U.S. master's degree.

This recommendation is used if the program of study is considered comparable to that of a U.S. master's program. This recommendation is usually not used for first degrees that may represent a level of academic attainment comparable to that of a

master's degree but that are different in program structure.

May be considered for admission to a doctoral program, with transfer credit determined through a course-by-course analysis.

This recommendation is used for credentials that may lead to admission into graduate study, including doctoral programs. It does not preclude admission into master's or other postbaccalaureate study.

May be considered comparable to an earned U.S. doctorate.

This recommendation is used if the program of study is considered comparable to a U.S. doctoral program. There may be differences in the structure and requirements of the program, but the credential represents advanced research and dissertation work of a sufficiently high level to recommend doctoral comparability.

Represents recognition of published post-doctoral scholarly research.

This statement is used if the holder of the credential has completed scholarly research that has been published as a condition of the credential. In some cases such as the German *Habilitation* and the French *Habilitation a diriger des recherches*, the credential is an entitlement to the highest university positions.

A first professional degree in ... (medicine, dentistry, veterinary medicine, pharmacy, law, architecture). May be considered for graduate admission.

This statement is used to point out the first professional degrees awarded in a particular field. No graduate transfer credit is awarded. While preparation for the profession occurs at the graduate level in the U.S., it occurs at the undergraduate level in many foreign educational systems.

Represents the completion of a specialization in ... (medicine, dentistry, psychotherapy, veterinary medicine).

This statement is used for credentials awarded for completion of a medical or dental specialization, following the first professional degree in the field.

Represents advanced graduate achievement in the field of specialization.

This statement is used for credentials that represent advanced, specialized studies that do not yield academic credit.

Council Commentary

Council Commentary is provided by the Council to accompany or supplement a placement recommendation or explain its absence. It is used at important points in the analysis of an educational system to clarify placement recommendations and their interpretation by U.S. institutions, or to provide advice and/or commentary if no placement recommendation is given.

Council Commentary provided with the placement recommendations may be used to discuss the reasoning behind a placement recommendation, or to amplify the way in which a recommendation may be interpreted or implemented:

- When a placement recommendation for a credential is lower than or higher than the access to further education provided by that credential in the home country;
- When a placement recommendation merits caution about determining admissibility and placement of individual students;
- When a complicated recommendation requires further interpretation.

Council Commentary may also be used to provide advice if no placement recommendation is given, as when:

- Completion of a portion of a program without receiving the degree may merit admission consideration at a particular level;
- Advice on evaluating partial completion of a program may be useful for determining transfer credit, for example, for a study abroad program;
- A program or credential may not fit into the placement recommendation format, but descriptive advice would assist in the assessment of an appropriate placement.

Placement Recommendations

Name of Credential	Entrance Requirement	Length of Study	Gives Access • in Denmark to	Placement Recommendation
Compulsory Education				
1. <i>Afgangsbrev</i> from a <i>Folkeskole</i> /FA (Lower secondary school leaving certificate) (p. 6-8)	Age 7	9 years	Upper secondary school programs	May be placed in grade 10.
2. <i>Udvidede afgangsbrev</i> from a <i>Folkeskole</i> /FUA (Extended leaving certificate) (p. 7)	Completion of grade 9	1 year	Upper secondary school programs	May be placed in grade 10 or 11, depending on coursework completed in the tenth-year program.
Upper Secondary Education				
3. <i>Studentereksamen</i> (Upper secondary school leaving certificate) (p. 10)				
a. from <i>gymnastiskole</i> (p. 7)	FA or FUA	3 years	Tertiary studies	May be considered for freshman admission; may receive advanced placement or transfer credit based on AP, CLEP, or equivalent U.S. institutional examination.
b. from <i>studenterkursus</i> (p. 10)	At least 1 year out of compulsory school, or age 18	2 years	Tertiary studies	May be considered for freshman admission; may receive advanced placement or transfer credit based on AP, CLEP, or equivalent U.S. institutional examination.
4. <i>Brevs for højere forberedelseseksamen</i> /HF (Higher preparatory certificate) (p. 10)	FA and age 18, or FUA	2 years	Tertiary studies	May be considered for freshman admission; may receive advanced placement or transfer credit based on AP, CLEP, or equivalent U.S. institutional examination.

Name of Credential	Entrance Requirements	Length of Study	Gives Access in Denmark to	Placement Recommendation
5. <i>Brevts for højere grunduddannelse/HG</i> (Certificate from higher basic course) (p. 16)	<i>FA or FUA</i>	1 year	<i>HHX</i> studies or apprenticeship	May be placed in grade 11.
6. <i>Eksamensbrevts for højere handelseksamen/HHX</i> (Higher commercial certificate) (p. 10)	<i>HG</i>	2 years	Tertiary studies	May be considered for freshman admission.
7. <i>Eksamensbrevts for højere teknisk eksamen/HTX</i> (Higher technical certificate) (p. 10)	<i>FA or FUA</i>	2 years	Tertiary studies	May be considered for freshman admission.
8. <i>Gymnastalt indslusningskursus for flygtninge/GIF</i> (Gymnasium preparation for foreigners) (p. 15)	Completion of upper secondary school outside of Denmark	1 year	Tertiary studies	Admission and placement should be based on other credentials.
9. <i>Social- og sundhedshjælper</i> (Social and health helper) (p. 19)	<i>FA or FUA</i>	1 year	Employment or further education	Primarily a vocational qualification.
10. <i>Social- og sundhedsassistent</i> (Social and health assistant) (p. 19)	<i>Social- og sundhedshjælper</i>	1.5 years	Employment or further education	Primarily a vocational qualification.
11. <i>Scendebrevuddannelsesbrevts</i> (Vocational certificate from apprenticeship training) (p. 16)	<i>FA or FUA</i>	2 to 4 years	Employment	Primarily a vocational qualification.

Tertiary Education

12. <i>Teknikereksamen</i> (Technical degree offered in many fields) (p. 28)	Upper secondary school leaving certificate plus at least 1 yr. of practical experience in related field, or apprenticeship training	1.5 to 4 years	Employment or further education	May be considered for undergraduate admission with transfer credit determined through a course-by-course analysis. Because of the specialized nature of the program, the syllabus should be reviewed carefully.
13. <i>Examinatus artium/ exam.art.</i> (Humanities examination) (p. 33)	<i>Studentereksamen, HF, HHX, or HTX</i>	2 years full-time or 4 years part-time	Further tertiary education	May be considered for undergraduate admission with up to 2 years of transfer credit determined through a course-by-course analysis.
14. <i>Examinatus scientiarum/ exam.scient.</i> (Sciences examination) (p. 33)	<i>Studentereksamen, HF, HHX, or HTX</i>	2 to 3 years	<i>Cand.scient.</i> studies	May be considered for undergraduate admission with up to 3 years of transfer credit determined through a course-by-course analysis.
15. <i>Bachelorgraden</i> (BA, BS) (Bachelor degree) (p. 31)	<i>Studentereksamen, HF, HHX, or HTX</i>	3 or 3.5 years	<i>Candidatus</i> programs	May be considered for graduate admission in a closely related field if the specialized nature of the program followed is appropriate preparation.
16. <i>Candidatus/a philosophiae/ cand.phil.</i> (Candidate of philosophy) (p. 33)	<i>Studentereksamen, HF, HHX, HTX, or bachelorgraden</i>	4 years (or 1 year beyond the <i>bachelorgraden</i>)	Doctoral studies	May be considered for graduate admission.
17. <i>Candidatus/a</i> (Candidate of [field]) See Appendix C for full list of candidate degree titles. (p. 31)	<i>Studentereksamen, HF, HHX, HTX, or bachelorgraden</i>	5 years (or 2 years beyond the <i>bachelorgraden</i>)	Doctoral studies	May be considered for admission to a doctoral program. (See "Council Commentary" at the end of these placement recommendations.)
18. <i>Candidatus/a juris/cand.jur.</i> (Candidate in law) (p. 75)	<i>Studentereksamen, HF, HHX, HTX, or bachelorgraden</i>	5 years (or 2 years beyond the <i>bachelorgraden</i>)	Doctoral studies, research, or professional or academic employment	A first professional degree in law; may be considered for graduate admission.

Name of Credential	Entrance Requirements	Length of Study	Gives Access in Denmark to	Placement Recommendation
19. <i>Examinatus oeconomicus</i> (<i>exam.oecon.</i> (Economics examination) (p. 33))	<i>Bachelorgraden</i> or <i>candidat</i> degree in another subject	2 years	Further education	May be considered for graduate transfer credit determined through a course-by-course analysis.
20. <i>Magister/tra artium/mag.art.</i> , <i>Magister/tra scientiarum/mag. scient.</i> , <i>Magisterkonferens</i> (Master's degree) (p. 33)	<i>Studentereksamen</i> , <i>HF</i> , <i>bachelorgraden</i> , or <i>cand.phil.</i>	Total of 6 years beyond university matriculation	Doctoral studies	May be considered for admission to a doctoral program.
21. <i>Licentiatustillic.</i> (Licentiate) (p. 31)	<i>Candidat</i> or <i>magister</i>	3 years	Employment	May be considered comparable to an earned U.S. doctorate.
22. <i>Ph.D.-graden</i> (Ph.D. degree) (p. 32)	<i>Candidat</i>	3 years	Employment	May be considered comparable to an earned U.S. doctorate.
23. <i>Doctor</i> (in various fields) See Appendix C for list of doctoral degrees. (p. 32)	Independent research (no minimum entry requirement but usually a <i>candidat</i>)	Variable	Employment	Represents recognition of published postdoctoral level of scholarly research.
24. Master's degrees (i.e., Master in European Social Policy and Analysis; Master in Problems of Society, Technology, and Science in Europe) (p. 47)	A university degree	1 to 2 years	Further tertiary education	May be considered comparable to a U.S. master's degree.
Agriculture and Forestry				
25. <i>Faglært landmand</i> (Skilled agriculturist) (p. 52)	<i>FA</i>	42 months, including 30 months of practical training	<i>Grønt bevis</i> studies	Primarily a vocational qualification.

26. <i>Grønt bevis</i> or <i>Driftsleder med grønt bevis</i> (Green certificate or manager with green certificate) (p. 52)	<i>Faglært landmand</i>	18 months, including 6 months of practical training	<i>Grønt diplom</i> studies or employment	Primarily a vocational qualification.
27. <i>Grønt diplom</i> or <i>Driftsleder med grønt diplom</i> (Green diploma or manager with green diploma) (p. 53)	<i>Grønt bevis</i>	5 months	Employment	Primarily a vocational qualification.
28. <i>Landbrugstekniker</i> (Farm technician) (p. 53)	<i>Faglært landmand</i>	2 years	Employment	Primarily a vocational qualification.
29. <i>Agrarøkonom</i> (Agro-economist) (p. 53)	Completion of module 1 of <i>Faglært landmand</i> program	4 years	Employment	Primarily a vocational qualification.
30. <i>Skovbruger</i> (Skilled forest worker) (p. 53)	<i>Studentereksamen</i> or <i>HF</i> and a completed apprenticeship in forestry	3 years	<i>Skovtekniker</i> studies	May be considered for undergraduate admission with up to 3 years of transfer credit determined through a course-by-course analysis.
31. <i>Skovtekniker</i> (Forest engineer) (p. 53)	<i>Studentereksamen</i> or <i>HF</i> and a completed apprenticeship in forestry	4 years, including 2 years of practical training	Employment or <i>cand. sive.</i> studies	May be considered for graduate admission in a related field if the specialized nature of the program followed is appropriate preparation.
32. <i>Lærnedsmiddelingenør</i> (Food technology engineer) (p. 55)	<i>Studentereksamen</i> or <i>HF</i>	3.5 years	<i>Candidatus</i> programs	May be considered for graduate admission in a related field if the specialized nature of the program followed is appropriate preparation.
33. <i>Candidatus/a medicinae veterinariae/cand.med.vet.</i> (Candidate in veterinary medicine) (p. 56)	<i>Studentereksamen</i> or <i>HF</i>	5.5 years	Doctoral studies, research, or professional or academic employment	A first professional degree in veterinary medicine; may be considered for graduate admission.

Name of Credential	Entrance Requirements	Length of Study	Gives Access in Denmark to	Placement Recommendation
Architecture				
34. <i>Candidatus(a) architecturae/cand. arch.</i> (Candidate in architecture) (p. 60)	<i>Studentereksamen, HF, HHX, or HTX</i>	5.5 to 6 years	Doctoral studies or employment	A first professional degree in architecture; may be considered for graduate admission.
Arts (Fine Arts, Applied Art and Design, Graphic Design)				
35. <i>Studiebevis fra Kunst-akademiet</i> (Study certificate from Art Academy) (p. 57)	Portfolio	6 years	Employment	May be considered for graduate admission as are graduates of U.S. schools of art.
36. <i>Konservator</i> (Conservation specialist) (p. 57)	<i>Studiebevis fra Kunstakademiet</i>	3 years	Employment	Represents the completion of a specialization in art restoration and conservation.
37a. <i>Diplom i grafisk kommunikation</i> or <i>Grafonom</i> (Diploma in graphic communication) (p. 58)	<i>Studentereksamen, HF, HHX, or HTX; plus 10 months vocational training, 3 years of relevant work experience, and entrance examination</i>	2 years	Employment or further study in field	Represents the completion of a specialization in graphic arts.
b. <i>Diplom i grafisk teknik og økonomi</i> (Diploma in graphic technique and economy) (p. 59)				
38. Certificate from <i>Den Grafiske Højskole</i> (Certificate from the Graphic College) (p. 58)	<i>Diplom i grafisk kommunikation</i> or <i>Diplom i grafisk teknik og økonomi</i>	1 year	Employment	Represents the completion of a specialization in graphic arts.
Design				
39. <i>Designer</i> title from Design School (p. 58)	Portfolio	3.5 to 5 years	Employment	May be considered for admission and placement on the same basis as are graduates of U.S. schools of design.

Business

40. <i>Akademikøkonom</i> (Academy economist) (p. 60)	<i>Studentereksamen, HF, HHX, or HTX</i>	1 year	Employment or further education	May be considered for undergraduate admission with up to 1 year of transfer credit determined through a course-by-course analysis.
41. <i>Markedsøkonom</i> (Market economist) (p. 61)	<i>FA</i> and business experience	2 years	Employment or <i>HD</i> Part II studies	Primarily a vocational qualification; admission and placement should be based on other credentials.
42. <i>Eksamineret Exportør</i> (Exporter diploma) (p. 60)	2 years of relevant experience, or age 22, or <i>HHX</i>	1.5 years	Employment	Primarily a vocational qualification; admission and placement should be based on other credentials.
43. <i>Merkonom</i> (Commercial diploma) (p. 60)	Vocational education or 2 years of relevant experience	3 years part-time	Employment	Primarily a vocational qualification; admission and placement should be based on other credentials.
44. <i>Datanom</i> (Computer specialist) (p. 60)	<i>Studentereksamen, HF, HHX, or HTX</i>	2.5 years	Employment	Primarily a vocational qualification; admission and placement should be based on other credentials.
45. <i>Erhvervsproglig korrespondent</i> (Commercial language correspondent) in one language (p. 62)	<i>Studentereksamen, HF, HHX, or HTX</i>	3 years part-time	Employment or <i>erhvervsproglig diplom/ ED</i> studies	May be considered for undergraduate admission with up to 1.5 years of transfer credit determined through a course-by-course analysis.
46a. <i>Erhvervsproglig korrespondent</i> (Commercial language correspondent) in two languages (p. 62)	<i>Studentereksamen, HF, HHX, or HTX</i>	2.5 to 3 years fulltime	Employment or further business education	May be considered for undergraduate admission with up to 3 years of transfer credit determined through a course-by-course analysis.
b. <i>Den erhvervsproglig afgangseksamen (FA)</i> (Commercial language leaving certificate) in two languages (p. 62)				
47. <i>Erhvervsprogligt diplom/ED</i> (Commercial language diploma) (p. 62)	<i>Erhvervsproglig korrespondent, korrespondent, FA, HA.-ling. merc., or B.ling.merc</i>	2 years part-time	Employment or further business education	May be considered for undergraduate admission with up to 1 year of transfer credit determined through a course-by-course analysis.

Name of Credential	Entrance Requirements	Length of Study	Gives Access in Denmark to	Placement Recommendation
48. <i>Erhvervsøkonomiskproglig afgangsprøve/ESA</i> (Business economics and foreign languages diploma) (p. 62)	<i>Studentereksamen, HF, HHX, or HTX</i>	3 years	<i>Candidatus</i> studies in business or <i>HD</i> Part II study	May be considered for graduate admission in a closely related field if the specialized nature of the program is appropriate preparation.
49. <i>Bachelor linguae mercantilis/B.ling. merc.</i> (Bachelor of business and language) (p. 62)	<i>Studentereksamen, HF, HHX, or HTX</i>	3 years	<i>Cand.ling.merc.</i> studies	May be considered for graduate admission in a closely related field if the specialized nature of the program is appropriate preparation.
50a. <i>Handelsvidenskabelig diplomeksamen/HD</i> (Commercial sci. dip.) (p. 61)	<i>Studentereksamen, HF, HHX, or HTX</i>	4 years part-time	Employment or further education in business	May be considered for undergraduate admission with up to 2 years of transfer credit determined through a course-by course analysis. Because of the specialized nature of the program, the syllabus should be reviewed carefully.
b. <i>Handelshøjskolens diplomeksamen/HD</i> (Business school diploma) (p. 63)				
c. <i>Den erhvervsøkonomiske diplomprøve</i> (Business economics diploma) (p. 65)				
51. <i>Almen administrativ eksamen/AAE</i> (General administration degree) (p. 46)	<i>Studentereksamen, HF, HHX, or HTX</i>	3.5 years	<i>Candidatus</i> studies in business	May be considered for graduate admission in a related field if the specialized nature of the program followed is appropriate preparation.
52. <i>Almen administrativ datalogi eksamen/AAD</i> (Administrative data processing degree) (p. 46)	<i>Studentereksamen, HF, HHX, or HTX</i>	4 years	<i>Candidatus</i> studies in business	May be considered for graduate admission in a related field if the specialized nature of the program followed is appropriate preparation.

53. <i>Handelsvidenskabelig afgangseksamen/HA, Handelshøjskolens afgangseksamen/HA, or Den almene erhvervsøkonomiske eksamen</i> (Business studies degrees); also conferred in specializations, e.g. <i>HA-jur.</i> , <i>HA-dat.</i> , etc. (p. 63)	<i>Studentereksamen, HF, HHX, or HTX</i>	3 to 3.5 years	<i>Candidatus</i> studies in business	May be considered for graduate admission in a related field if the specialized nature of the program followed is appropriate preparation.
54. <i>Candidatus/la interpretationes/ cand. interpret.</i> (Candidate of interpretation) (p. XX)	<i>Studentereksamen, HF, HHX, or HTX</i>	6 years	Doctoral studies	May be considered for admission to a doctoral program.
55. <i>Candidatus/la negotiandi/ cand. negot.</i> (Candidate of business trade) (p. 45)	<i>Studentereksamen, HF, HHX, or HTX</i>	4 years	Doctoral studies	May be considered for graduate admission.
56. <i>Konferencetolk</i> (Conference interpreter) (p. 68)	<i>Candidat</i>	6 months	Employment	Primarily a vocational qualification; admission and placement should be based on other credentials.
Drama				
57. <i>Skuespiller</i> (Actor) (p. 69)	<i>FA</i> and audition	4 years	Employment	A professional qualification; admission and placement should be based on other credentials.
Engineering				
58. <i>Teknikumingeniør</i> (Technical engineer) (p. 70)	<i>Studentereksamen, HF, HHX, or HTX</i>	4 years, including 1 year practical training	<i>Civilingeniør</i> studies	May be considered for graduate admission in a closely related field if the specialized nature of the program followed is appropriate preparation.

Name of Credential	Entrance Requirements	Length of Study	Gives Access in Denmark to	Placement Recommendation
59. <i>Akademiingeniør</i> (Academy engineer) (p. 71)	<i>Studentereksamen</i> , <i>HF</i> , <i>HHX</i> , or <i>HTX</i>	3.5 years, including half-year practical training	<i>Civilingeniør</i> studies	May be considered for graduate admission in a closely related field if the specialized nature of the program followed is appropriate preparation.
60. <i>Diplomingeniør</i> (Diploma engineer) (p. 70)	<i>Studentereksamen</i> , <i>HF</i> , <i>HHX</i> , or <i>HTX</i>	3.5 years, including half-year practical training	<i>Civilingeniør</i> studies	May be considered for graduate admission in a closely related field if the specialized nature of the program followed is appropriate preparation.
61. <i>Eksportingeniør</i> (Export engineer) (p. 71)	<i>Studentereksamen</i> , <i>HF</i> , <i>HHX</i> , or <i>HTX</i>	3.5 years at Aalborg Univ. and 5 years at <i>Teknika</i>	Employment	May be considered for graduate admission in a closely related field if the specialized nature of the program followed is appropriate preparation.
62a. <i>Civilingeniør</i> (Civilian engineer) (p. 74) b. <i>Candidatus/a polytechnices/cand.polyt.</i> (Candidate polytechnical) (p. XX)	<i>Studentereksamen</i> , <i>HF</i> , <i>HHX</i> , or <i>HTX</i> ; or <i>academiingeniør</i> , <i>teknikumingeniør</i> , or <i>diplomingeniør</i>	Total of 5 years, including prior engr. studies	Doctoral studies	May be considered for admission to a doctoral program.
Film				
63. Certificate from film school (p. 74)	Portfolio	4 years	Employment	A professional qualification; admission and placement should be based on other credentials.
Journalism				
64a. <i>Journalist</i> (p. 75) b. <i>Billed-journalist</i> (Photojournalist) (p. 75)	Entrance examination	4 years, incl. 1.5 years practical training	Employment	May be considered for graduate admission in a closely related field if the specialized nature of the program followed is appropriate preparation.

65. <i>Journalistisk diplomeksamen/ JD (Journalist diploma)</i> (p. 75)	<i>Journalist or Billed-journalist</i>	1 year part-time	Employment	Represents the completion of a specialization in journalism.
66. <i>Diploma Europe and the World</i> (p. 75)	A university degree	3 semesters	Employment	Represents the completion of a specialization in journalism.
67. <i>Eksamensbevis Tillægsuddannelsen</i> (Certificate of supplementary study) (p. 75)	Completion of at least two-thirds of any tertiary academic program	1 semester	Employment	Primarily a vocational qualification.

Library Sciences

68. <i>Bibliotekar, DB</i> (Librarian) (p. 76)	<i>Studentereksamen, HF, HHX, or HTX</i>	4 years	Employment or <i>cand.scient.bibl.</i> prog.	May be considered for graduate admission.
69. <i>Forskningsbibliotekar- og dokumentalist</i> (Research librarian and archivist) (p. 76)	<i>Candidat</i> degree and experience	1 year part-time	Employment	May be considered for graduate transfer credit.

Music

70. <i>Musiklærereksamen</i> (Music teacher's degree) (p. 78)	<i>Studentereksamen, HF, HHX, or HTX</i>	4 years	Employment or further studies	May be considered for graduate admission.
71. <i>Diplom i musik</i> (Music diploma) (p. 78)	<i>Studentereksamen, HF, HHX, or HTX; and audition</i>	4 years	Employment or further studies	May be considered for graduate admission as are graduates of U.S. schools of music.
72. <i>Diplom i musikpædagogisk</i> (Diploma in music pedagogy) (p. 78)	a. <i>Studentereksamen, HF, HHX, or HTX; and audition</i> b. <i>Musiklærer-eksamen</i>	a. 5 years b. 1 year	Employment or further studies	May be considered for graduate admission.

Name of Credential	Entrance Requirements	Length of Study	Gives Access in Denmark to	Placement Recommendation
73. <i>Diplom i...</i> (Diploma in [instrument]) (p. 78)	<i>Studentereksamen</i> , HF, HHX, or HTX; and audition	5 years	Employment or further studies	May be considered for graduate admission as are graduates of U.S. schools of music.
74. <i>Solist Diplom</i> (Soloist diploma) (p. 78)	A degree in music	2 years	Doctoral studies, research, or professional or academic employment	Represents advanced graduate achievement in the field of specialization.
75. <i>Diplom i rytmisk musik-lærerundervisning</i> (Diploma in rhythmic music teaching) (p. 78)	<i>Studentereksamen</i> , HF, HHX, or HTX	4 years	Employment	May be considered for graduate admission as are graduates of U.S. schools of music.
Medical Fields				
76. <i>Candidatus/a medicinae/cand. med.</i> (Candidate in medicine) (p. 87)	<i>Studentereksamen</i> , HF, HHX, or HTX	6.5 years	Professional employment, doctoral studies, or further research	A first professional degree in medicine; may be considered for graduate admission.
77. <i>Candidatus/a odontologiae/cand. odont.</i> (Candidate in dentistry) (p. 86)	<i>Studentereksamen</i> , HF, HHX, or HTX	5 years	Professional employment, doctoral studies, or further research	A first professional degree in dentistry; may be considered for graduate admission.
78. <i>Candidatus/a pharmaciae/cand. pharm.</i> (Candidate in pharmacy) (p. 89)	<i>Studentereksamen</i> , HF, HHX, or HTX	5 years	Professional employment, doctoral studies, or further research	A first professional degree in pharmacy; may be considered for graduate admission.
79. Certificates of specialization in various medical fields (p. 86)	A professional medical degree	Variable	Employment	Represents the completion of a specialization in a medical field.
80. Diploma in Medical Research (p. XX)	Completion of first half (basic studies) of <i>cand.med.</i> program	1 year	Continued studies in <i>cand.med.</i> program	May be considered for undergraduate transfer credit determined through a course-by-course analysis.

81. Certificate for first year of chiropractic studies (p. 86)	<i>Studentereksamen, HF, HHX, or HTX; plus related experience</i>	1 year	Second year of chiropractic program in another country	May be considered for undergraduate admission with up to 1 year of transfer credit determined through a course-by-course analysis.
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Paramedical Fields

82a. <i>Apoteksassistent</i> (Pharmacy assistant) (p. 92)	<i>FA or FUA</i>	3 years	Further studies	May be considered for freshman admission if a specialized program is appropriate preparation.
b. <i>Hospitalslaborant</i> (Medical laboratory tech.) (p. 91)				
c. <i>Laborantassistent</i> (Laboratory assistant) (p. 91)				
d. <i>Tandklinikassistent</i> (Dental assistant) (p. 90)				
83. <i>Tandplejer</i> (Dental hygienist) (p. 90)	<i>FA or FUA</i>	2 years	Employment	Primarily a vocational qualification.
84a. <i>Økonoma</i> (Hospital trained dietician) (p. 91)	<i>FUA and vocational certificate</i>	2 years	Employment	Primarily a vocational qualification.
b. <i>Klinisk tandtekniker</i> (Clinical dental technician) (p. 90)				
85a. <i>Laborant</i> (Laboratory technologist) (p. 91)	<i>Laborantassistent, hospitalslaborant, or HTX</i>	1.5 years	Employment	May be considered for undergraduate admission with up to 1.5 years of transfer credit determined through a course-by-course analysis.
b. <i>Kemisteknolog</i> (Chemical technologist) (p. 91)				
c. <i>Miljøtekniker</i> (Environmental technologist) (p. 91)				
86. <i>Ergoterapeut</i> (Occupational therapist) (p. 92)	<i>Studentereksamen, HF, HHX, or HTX</i>	3 years	Employment or advanced study certificate course	May be considered for undergraduate admission with up to 3 years of transfer credit determined through a course-by-course analysis.

157	Name of Credential	Entrance Requirements	Length of Study	Gives Access in Denmark to	Placement Recommendation
	87. <i>Fysioterapeut</i> (Physical therapist) (p. 92)	<i>Studentereksamen</i> , HF, HHX, or HTX	3 years	Employment or advanced study certificate course	May be considered for undergraduate admission with up to 3 years of transfer credit determined through a course-by-course analysis.
	88. <i>Jordemoder</i> (Midwife) (p. 88)	<i>Studentereksamen</i> , HF, HHX, HTX, or equivalent	3 years	Employment	May be considered for undergraduate admission with transfer credit determined through a course-by-course analysis. Because of the specialized nature of the program, the syllabus should be reviewed carefully.
	89. <i>Sygeplejerske</i> (Nurse) (p. 88)	<i>Studentereksamen</i> , HF, HHX, or HTX; plus 9 mos. work experience	4 years	Nursing diploma course or <i>cand.cur</i> studies	May be considered for graduate admission.
	90. <i>Radiograf</i> (Radiographer) (p. 93)	<i>Studentereksamen</i> , HF, HHX, HTX, or equivalent	3 years	Employment	May be considered for undergraduate admission with up to 3 years of transfer credit determined through a course-by-course analysis. Because of the specialized nature of the program, the syllabus should be reviewed carefully.
	91. <i>Sygeplejefaglig Diplomeksamen</i> (Nursing diploma) in special fields (p. 89)	<i>Sygeplejerske</i>	10 months	Employment	Represents completion of a specialization in nursing.
	92. <i>Becis</i> (Certificate) in physical therapy or occupational therapy (p. 92)	<i>Ergoterapeut</i> or <i>Fysioterapeut</i> plus experience	10 months	Employment	Represents completion of a specialization in the field.
	Social Work				
	93. <i>Socialrådgiver</i> or <i>Socionom</i> (Social worker) (p. 79)	<i>Studentereksamen</i> , HF, HHX, or HTX plus experience	3.5 years	Employment or further education	May be considered for graduate admission in a related field if the specialized nature of the program followed is appropriate preparation.

94. <i>Afgangsbevis de sociale højskole's videreuddannelse</i> (Leaving certificate of the school of social work's further education) (p. 79)	<i>Socialrådgiver, socionom</i>	10 months	Employment	May be considered for graduate transfer credit determined through a course-by-course analysis.
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Teacher Education

95. <i>Afgangsbevis for børnehøjskolepædagoger, fritidspædagoger, or socialpædagoger</i> (Leaving certificate for preschool teacher, recreation teacher, or social care teacher) (p. 96)	<i>FA and life experience</i>	3.5 years	Employment	May be considered for freshman admission.
96. <i>Afgangsbevis for handelsfaglærereksamen i ... (field)</i> (Leaving certificate for commercial subject teacher in [field]) (p. 97)	3 years of commercial experience and position as commercial school teacher	12 to 13 months	Employment	Represents completion of undergraduate teacher education courses.
97. <i>Pedagogiske uddannelse af lærere ved tekniske skoler/ pedagogikum</i> (Pedagogical training of technical school teachers) (p. 98)	Position as technical school teacher	1 year	Employment	Represents completion of undergraduate teacher education courses.
98. <i>Afgangsbevis for håndarbejds lærer</i> (Leaving certificate for needlecraft teacher) (p. 97)	No academic qualifications; admission by individual evaluation	2.5 years	Employment	Primarily a vocational qualification.

EN	Name of Credential	Entrance Requirements	Length of Study	Gives Access in Denmark to	Placement Recommendation
99.	<i>Afgangsbæis for ernærings- og husholdningsøkonomer</i> (Leaving certificate for home economics), formerly <i>Afgangsbæis for husholdningslærer</i> (Leaving certificate for home economics teacher) (p. 98)	<i>Studentereksamen, HHX, or HF</i>	3.5 years	Employment	May be considered for undergraduate admission with up to 3.5 years of transfer credit determined through a course-by-course analysis.
100.	<i>Bæis for Lærereksamen</i> (Diploma for elementary and lower secondary teachers, [<i>Folkeskolelærer</i>]) (p. 96)	<i>Studentereksamen, HF, HHX, or HTX</i>	4 years	Employment or further studies	May be considered for graduate admission.

Council Commentary:

A minority number of Council members voted that the recommendation for holders of *candidatus* degrees (i.e., may be considered for admission to a doctoral program) be interpreted to mean academic achievement beyond the U.S. bachelor's degree, which may merit consideration for graduate admission with possible graduate transfer credit for advanced subjects taken in the final years of the program. The recommendation signifies that the level of academic achievement is comparable to that of a U.S. master's degree.

Appendix A

Approved Vocational Education Courses

(Length of study in years and months follows the course names. Admission to courses followed by "A" is restricted.)

Business and Office Vocational Education

Information assistant A (*informatiksassistent A*) 3

Office courses (*kontoruddannelse*)

accounting (*regnskab*) 3

forwarding, shipping (*spedition og shipping*) 3

generalists (*all-round*) 3

legal secretary (*advokatsekretær*) 3

local government (*kommune/amtskommune*) 3

medical secretary (*lægesekretær*) 3

national government (*offentlig forvaltning, stat*) 3

public administration (*offentlig forvaltning*)

travel branch (*rejsebranchen*) 3

Painter and decorator (*dekoratør*) 3

Wholesale courses (*engroshandelsuddannelserne*)

special branch (*brancheretter*)

wholesale assistant (*engroshandelsassistent*) 3

Technical Vocational Education

Sales assistant (*salgsassistent*) 3

Landscape gardener (*anlægsgartner*)

construction (*anlægsteknik*) 3.10

maintenance (*plejeteknik*) 3.10

Motor mechanic/auto-electrician (*auto/ autoelektrouddannelse*)

auto-electrician (*autoelektrikmekaniker*) 4

motor mechanic (*automekaniker*) 4

Baker/confectioner (*bager/konditor*)

assistant (*chokolade-og konfekturassistent*) 3.7

baker (*bager*) 3.7

chocolate and confectionery confectioner (*konditor*) 3.7

Clothing (*beklædningshåndværk*)

cap maker (*hue-og kasketmager*) 3.9

dressmaker (*kjoleskrædder*) 3.9

furrier (*buntmager*) 3.9

glove maker (*handskemager*) 3.9

men's tailor (*herreskrædder*) 3.9

milliner (*modist*) 3.9

seamstress (m/f) (*handsyverske*) 2.6

Garments operator (*beklædningsoperator*) 3

Industrial smith (*beslagsmed*) 4

Paver and road layer (*brolægger og struktør*)

paver (*struktør*) 4

road layer (*brolægger*) 4

Building painter (*bygningsmaler*) 3.6

Cafeteria assistant (*cafeterieassistent*) 2.5

Bicycle/motorcycle (*cykel-/motorcykel*)

bicycle mechanic (*cykelmekaniker*) 2.9

moped mechanic (*knallertmekaniker*) 2.9

motorcycle mechanic (*motorcykelmekaniker*) 3.3

Computer technician (*datamekaniker*) 5

Retail butcher (*detailslagter*)

butcher (*slagter*) 4

retail butcher (*butiksslagter*) 4

sausage maker (*pølsemer*) 4

Electrician (*elektriker*)

industrial plant (*industrianlæg*) 4

installer (*installationsteknik*) 4

Electronics and light current (*elektronik- og svagstrøm*)

electronics mechanic (*elektronikmekaniker*) 4

office machines mechanic

(*kontormaskinmekaniker*) 4

radio mechanic (*radiomekaniker*) 4

Dyeing operator (*farveroperator*) 3

Film, TV, and video assistant (*film-, TV og video*)

audiovisual assistant (*AV-assistent*) 4.6

media mechanic (*medieteknikmekaniker*) 4.6

Precision mechanics/(production)

(*finmekaniker*)

gunsmith (*våbenmekaniker*) 4

precision mechanic/locksmith (*finmekaniker/ ldseteknik*) 4

precision mechanic/production (*finmekaniker/ fremstilling*) 4

Aircraft mechanic (*flymekaniker*) 4.6

Molding (*formeruddannelsen*)

hand molder (*håndformer*) 3.6

industrial molder (*industriformer*) 2

metal core maker (*metalstøber*) 2.6

Photography (*fotografi*)

photographer (*fotograf*) 4

press photographer (*pressefotograf*) 4.6

Hairdresser A (*Frisør A*) 4

Glazier (*glarmester*) 3.6

Graphics A (*grafiker A*)

make-up & data processing (*ombrydning og databehandling A*) 4

layout/montage A (*lay-out/montage A*) 4

Appendix A

- picture production and retouching A
(*billedfremstilling og retouche* A) 4
- Graphic typography A** (*grafisk trykkeri* A)
- graphic typographer A (*grafisk trykker* A) 4
- typographer A (*trykker* A) 3
- Hospital technical assistant** (*hospitalsteknisk assistent*)
- audiology assistant (*audiologiassistent*) 2.6
- neurophysiology assistant (*neurofysiologiassistent*) 2.6
- Industrial worker** (*industriarbejder*) 2
- Industrial bookbinder A** (*industriebogbinder* A) 4
- Slaughterhouse worker** (*industri slagter*)
- cattle slaughterer (*kreaturslagter*) 3
- industrial sausage maker (*industri pølsemaker*) 4
- pig slaughterer (*svineslagter*) 4
- Industrial technician** (*industriteknikuddannelsen*)
- industrial mechanic (*industrimekaniker*) 4.6
- industrial technology mechanic
(*industriteknikmekaniker*) 5.6
- Body maker** (*karosserismed*) 4
- Ceramics worker** (*keramisk formmager*)
- industrial caster (*industriel keramisk formmager*) 4
- jigger/jollier (*keramisk former*) 2
- model assembler (*modelindretter*) 3.6
- potter (*pottemager*) 4
- Cook and open sandwiches** (*køkken og smørrebrød*)
- cook (*køkken*) 4
- open sandwich maker (*smørrebrødsjomfru*) 3.1
- Cosmetician A** (*kosmetiker* A) 2
- Kitchen assistant** (*køkkenassistent*) 3
- Refrigeration mechanic** (*kølemontør*) 4
- Laboratory assistant** (*laborant*) 3 mos., 20 weeks
- Agriculture** (*landbrug*)
- agriculture machine mechanic
(*landbrugsmaskinmekaniker*) 4
- agriculture assistant (*jordbrugsassistent*) 3.8
- agriculture machine operator
(*jordbrugsmaskinfører*) 3.8
- contracting machine mechanic
(*entreprenørmaskinmekaniker*) 4
- fish farm assistant (*fiskeassistent*) 3.8
- stock assistant (*dyreassistent*) 3.8
- tractor mechanic (*traktormekaniker*)
- woodcutting machinist (*lastvognsmekaniker*) 4
- Mechanic/fitter** (*maskinuddannelsen*)
- lathe operator (*drejer*) 2.6
- mechanic/fitter (*maskinarbejder*) 4
- milling machine worker (*fræser*) 2.6
- plastics mechanic (*plastmekaniker*) 4
- ship's fitter (*skibsmontør*) 4
- vice operator (*skruestikarbejder*) 2.6
- Dairyman** (*mejerist*) 3.4
- Cabinet maker** (*modelsnedker*) 4
- Mason** (*murer*) 3.9
- Miller** (*møller*) 2.11
- Optometrist** (*optometrist*) 4.6
- Orthopedist** (*ortopædist*) 4
- Plastics processing machine operator**
(*plastmager og procesoperatør*)
- plastics molder (*plastmager*) 4
- plastics processing machine operator
(*procesoperatør*) 4
- China decorator** (*porcelænsmaler*)
- blue china painter (*blåmaler*) 1.6
- figure and vase painter (*figur- og vasmaler*) 2.8
- glazed china decorator (*overglasurmaler*) 4
- Production gardener** (*produktionsgartner*)
- fruit and berry grower (*frugt- og bæravlser*) 3.8
- nursery gardener (*planteskolegartner*) 3.8
- open-air gardener (*frilandsgartner*) 3.8
- Receptionist** (*receptionist*) 3.2
- Salvage-corps operator** (*redder*) 3.6
- Sail making and interior decoration**
(*Uddannelsen for sejl og boligmonteringsfagene*)
- car seat maker (*autosadelmager*) 4
- car seat upholsterer (*autopolstrer*) 2.6
- curtain fitter (*gardindekoratør*) 2.9
- sail maker (*sejlmager*) 4
- upholsterer (*møbelpolstrer*) 4
- Serigrapher A** (*serigraf* A) 4
- Ship's carpentry** (*skibstømmeruddannelsen*)
- boat builder (*bådebygger*) 4
- plastic and fittings boat builder
(*plasttømringsbådebygger*) 3
- wooden ship's carpenter (*træslibstømmer*) 4
- Sign painter** (*skiltemaler*) 3.6
- Shoe making** (*skomageri*)
- closer (*nåddler*) 2.2
- orthopedic shoemaker (*ortopædiskomager*) 3.8
- service shoemaker (*serviceskomager*) 2.3
- Chimney sweep** (*skorstensfejer*) 4
- Forestry** (*skovbrug*)
- estate worker (*godsarbejder*) 3
- forestry machinery oper. (*maskinfører [skovbrug]*) 3
- forestry worker (*skovbruger*) 3
- lumber mill and wood industry operative
(*sævværks- og træindustriarbejder*) 3
- nature information (*naturformidling*) 3
- wood and landscape maintenance (*træ- og
landskabspleje*) 3
- Smithing** (*smedeuddannelse*)
- blacksmith (*grovsmed*) 4
- building and rural smith (*bygnings- og
landbrugssmed*) 4

industrial pipe fitter (*industriørørsmed*) 4
 plate and construction smith (*plade- og konstruktionssmed*) 4
 precision mechanic (*kleinsmed*) 4
 rust-free precision mechanic (*rustfast kleinsmed*) 4
 shipbuilder (*skibsbygger*) 4
 shipbuilding operative (*skibsbygningsarbejder*) 3.6
 technical plumber (ITS-rørsmed) 4
 welder (*svøjser*) 4
Stone mason (*stenhugger*)
Knitting machinist (*strikkeoperator*) 3
Stucco worker (*stukkator*) 2
Dental surgery assistant (*tandklinikassistent*) 3
Dental technician (*tandtekniker*)
 permanent dentures (*fast protetik*) 4.6
 removable dentures (*aftagelig protetik*) 2.6
Gut cleaner (*tarmreenser*) 3.7
Technical assistant (*teknisk assistent*)
 building and construction (*bygge- og anlægsområdet*) 3
 production (*fremstillingsområdet*) 3
Textile machinist (*tekstiloperator*) 3
Waiter (*tjener*) 3.4
Transport worker (*transportarbejder*)
 crane (*kran*) 3
 storage (*lager*) 3
Construction carpenter/joiner (*træfagenes byggeuddannelse*)
 carpenter/joiner (*tømmer-snedker*) 188-192 weeks
 floor fixer (*gulv-lægger*) 188-192 weeks
Industrial carpenter/joiner (*træfagenes industrielle snedkeruddannelse*)

industrial building carpenter (*industriel bygnings-snedker*) 3.8
 industrial cabinet maker (*industriel møbelsnedker*) 3.8
 organ builder (*orgelbygger*) 3.8
Watchmaker (*urmaker*) 4
Car painter (*vognmaler*) 3.6
Plumbing, sanitary installation, technical installation, and service (ITS-teknisk installation, teknisk isolering og service)
 industrial installation (ITS-og industrimontør) 4
 plumbing installation, & insulation (ITS-og blikkenslager isolator) 4
 plumbing installation (ITS-montør) 3.6
 sanitary and energy installation (ITS-og energimontør) 4
Greenhouse gardener (*værkshusgartner*) 3.6
Toolmaker (*værktøjsmageruddannelsen*)
 toolmaker specializing in cutting and punching (*værktøjsmager med snit-og stanseværktøj som speciale*) 4
 toolmaker specializing in molding (*værktøjsmager med formværktøj som speciale*) 4
Precious metals crafts A (*Ædelsmedeuddannelsen A*)
 chaser A (*cicelør A*) 4
 cutler A (*sølvbestiksmed A*) 4
 goldsmith A (*guldsmed A*) 4
 hollowware smith A (*korpussølvsmed A*) 4
 letter engraver A (*skriftgravør*) 4
 stamp cutter A (*stempelgravør*) 4
 steel engraver A (*stålgravør A*) 4

Appendix B

Teknika (Engineering Colleges) Offering Degree Teknikumingeniør

Aarhus Teknikum

Dalgas Avenue 2
DK-8000 Aarhus C, Denmark
Phone: +45 86 136211
Fax: +45 86 136488
Main subjects: Civil, Electrical, Electronic,
and Mechanical Engineering.

Esbjerg Teknikum

Niels Bohrs Vej 8
DK-6700 Esbjerg, Denmark
Phone: +45 75 127666
Fax: +45 75 453643
Main subjects: Civil, Chemical
and Mechanical Engineering.

Haslev Teknikum

Bråbyvej 45
DK-4690 Haslev, Denmark
Phone: +45 56 311400
Fax: +45 56 311033
Main subjects: Civil, Electronic,
and Mechanical Engineering.

Helsingør Teknikum

Rasmus Knudsensvej 50
DK-3000 Helsingør, Denmark
Phone: +45 49 216622
Fax: +45 49 213324
Main subjects: Production Engineering,
Mechanical Engineering,
and Naval Construction.

Horsens Teknikum

Chr.M. Østergårdsvej 4
DK-8700 Horsens, Denmark
Phone: +45 75 628811
Fax: +45 75 626456
Main subjects: Civil, Mechanical,
and Export Engineering.

***Vestjysk Teknikum* (branch of Horsens Teknikum)**

Valdemarsvej 339
DK-7400 Herning, Denmark
Phone: +45 97 210388
Fax: +45 97 129897
Main subjects: Electronic and Production
Engineering.

Københavns Teknikum

Prs. Charlottes Gade 38
DK-2200 København N, Denmark
Phone: +45 31 394811
Fax: +45 31 394865
or
Lautrupvang 15
2750 Ballerup, Denmark
Phone: +45 44 978088
Fax: +45 44 978172
Main subjects: Civil, Electronic, Electrical,
Mechanical, Production,
and Export Engineering.

Odense Teknikum

Niels Bohr Allé 1
DK-5230 Odense M, Denmark
Phone: +45 66 130827
Fax: +45 66 134827
Main subjects: Civil, Mechanical, Chemical,
Production, Electronic,
and Electrical Engineering.

Sønderborg Teknikum

Voldgade 5
DK-6400 Sønderborg, Denmark
Phone: +45 74 425550
Fax: +45 74 431735
Main subjects: Electronic, Mechanical,
and Production Engineering.

Appendix C

Tertiary Credentials

(Not a comprehensive listing of degrees offered in Denmark; for example certain fields of the *candidatus* or *doctor* degrees have been omitted.)

<i>Afgangsbevis for Børnehavepædagoger.</i> Leaving Certificate for Preschool Teacher, 3.5 years	<i>hortonomiae arch./landskabsarkitekt.</i> landscape architecture
<i>Afgangsbevis for Fritidspædagoger.</i> Leaving Certificate for Recreation Teacher, 3.5 years	<i>interpretationes.</i> interpretation
<i>Afgangsbevis for Socialpædagoger.</i> Leaving Certificate for Social Care Teacher, 3.5 years	<i>juris/jurist.</i> law
<i>Afgangsbevis de Sociale Højskoler Videreuddannelse.</i> Leaving Certificate of the School of Social Work, Further Education, 10 months	<i>lactonomiae/mejeriingeniør.</i> dairy science
<i>Akademiingeniør.</i> Academy Engineer, 3.5 years	<i>linguae mercantilis/erhvervsproglig magisterii.</i> business and language candidate in two subjects, offered in the humanities or social science
<i>Akademiøkonom.</i> Academy Economist, 1 year	<i>magisterii/mag.</i> of master's
<i>Almen administrativ eksamen/AÆ.</i> Degree in General Administration, 3.5 years	<i>medicinae [læge.</i> medicine, 6.5 years
<i>Almen administrativ datalogi/AAD.</i> Degree in Administrative Data Processing, 4 years	<i>medicinae veterinariae/dyrlæge.</i> veterinary medicine, 5.5 years
<i>Bachelorgraden [B.A., B.S.]</i> Bachelor degree (B.A./B.S.), 3 years	<i>mercanturae/erhvervsøkonomisk.</i> business administration
<i>Bevis for lærereksamen.</i> Diploma for Elementary and Lower Secondary Teachers, <i>Folkeskolelærer</i> , 4 years	<i>mercanturae et auditoris/erhvervs økonomisk kand.i revision.</i> business administration and auditing
<i>Bibliotekar, D.B.</i> Librarian, 4 years	<i>mercanturae (dat.)/erhvervs økonomisk kand. med datalogi.</i> business administration and computing
<i>Billed-journalist.</i> Photo-journalist, 4 years	<i>mercanturae (juris)/erhvervs økonomisk juridisk.</i> business administration and law
<i>Candidatus/a philosophiae/cand.phil.</i> Candidate of Philosophy, 4 years	<i>mercanturae (mat.)/erhvervs økonomisk med matematik.</i> business administration and mathematics
<i>Candidatus/a negotiandi /cand.negot.</i> Candidate, Business & Foreign Languages, 4 years	<i>mercanturae oeconomices/erhvervs økonomisk.</i> business economics
<i>Candidatus/a.</i> Candidate of (Field), a minimum of 5 years (see Institutional Profiles for specifics).	<i>mercanturae int./erhvervs økonomisk med erhvervsprog.</i> international business administration and commercial languages
<i>actuarius/aktuar.</i> actuarial science	<i>odontologiae/tandlæge.</i> dentistry
<i>agronomiae/agronom.</i> agronomy	<i>oeconomices/økonomisk.</i> economics
<i>architecturae/arkitekt.</i> architecture	<i>oeconomices scientiarum.</i> economic science
<i>bromatologiae/leccnedmiddelkandidat.</i> food science	<i>paedagogiae.</i> teaching
<i>communicationis/kommunikation.</i> communications	<i>paed.psychologiae.</i> teaching and psychology
<i>geometria /landinspektør.</i> geodesy, surveying	<i>pharmaciaelfarmaceut.</i> pharmacy
<i>hortonomiae/hortonom, havebrug.</i> horticulture	<i>politicarum/økonomisk.</i> economics
	<i>polytechnices/civilingeniør.</i> engineer
	<i>psychologiae/psykologisk.</i> psychology
	<i>rerum socialium.</i> social science
	<i>scientiae bibliothecariae.</i> library science
	<i>scientiarum/naturvidenskabelig.</i> science
	<i>scientiarum administrationis.</i> administrative sciences
	<i>scientiarum oeconomices.</i> mathematical economics
	<i>scientiarum politicarum.</i> general, social sciences
	<i>scientiarum socialium.</i> sociology
	<i>silviniomiae/forstkandidat.</i> forestry
	<i>statistics/statistik.</i> statistics

Appendix C

<i>technices socialium/teknologisk samfundsvidenskabelig planlægnings.</i> tech. and socio-economic planning	<i>Erhvervssproglig Korrespondent.</i> Commercial Language Correspondent, 1.5-3 years
<i>theologiae (teologisk).</i> theology	<i>Examinatus/a Artium.</i> Humanities Exam, 2 years
<i>Civilingeniør.</i> Engineer, 5 years	<i>Examinatus/a Scientiarum.</i> Science Exam, 2 years
<i>Den pædagogiske uddannelse af lærere ved tekniske skoler (pædagogikum).</i> Technical School Teacher Certificate, 1 year	<i>Examinatus/a Oeconomices.</i> Economics Exam, 2 years
<i>Designer.</i> Designer, 3.5-5 years	<i>Forskningsbibliotekar- og documentalist.</i> Research Librarian and Documentalist, 1 year, part-time
<i>Diplom i grafisk kommunikation.</i> Diploma in Graphic Communication, 2 years	<i>Fysioterapeut.</i> Physical Therapist, 3 years
<i>Diplom i grafisk teknik og økonomi.</i> Diploma in Graphic Technique & Economy, 2 years	<i>Grafonom.</i> Specialist in Graphic Communication, 3 years
<i>Diplom i (instrument).</i> Diploma in (instrument), 5 years	<i>Handelsfaglæreksamen.</i> Commercial School Teacher's Exam, 12-13 months
<i>Diplom i musik.</i> Music Diploma, 4 years	<i>Handelshøjskole Afgangseksamen/HA.</i> Business School Diploma, 3 years
<i>Diplom i musikpædagogisk.</i> Diploma in Music Pedagogy, 5 years	<i>Handelsvidenskabelig Afgangseksamen/HA.</i> Commercial Science Diploma, 3 years
<i>Diplom i rytmisk musikk lærer.</i> Diploma in Rhythmic Music Teaching, 4 years	<i>Handelshøjskole Diplomeksamen/HD.</i> Business School Diploma, 2 years
<i>Diplomingeniør.</i> Diploma Engineer, 4 years	<i>Handelsvidenskabelig Diplomeksamen/HD.</i> Commercial Science Diploma, 2 years
<i>Doctor.</i> Doctorates in many fields, 2-4 years	<i>Journalist.</i> Journalist, 4 years
<i>dr.ling.merc.</i> business and language	<i>Journalistisk Diplomeksamen/JD.</i> Journalist Diploma, 1 year, part-time
<i>dr.med.</i> medicine	<i>Jordemoder.</i> Midwife, 3 years
<i>dr.med.vet.</i> veterinary medicine	<i>Konferencetolk.</i> Conference Interpreter, 6 months
<i>dr.merc.</i> commercial	<i>Konservator.</i> Conservation Specialist, 3 years
<i>dr.odont.</i> dentistry	<i>Korrespondent.</i> Correspondent, 1.5-3 years
<i>dr.phil.</i> philosophy	<i>Levnedsmiddelingeniør.</i> Food Technology Engineer, 3.5 years
<i>dr.scient.</i> science	<i>Licentiat</i> (generally offered in same fields as doctor degrees.). Licentiate in many fields, 2-3 years
<i>dr.scient.admin.</i> administrative science	<i>Magisterkonferens (mag.art.).</i> Awarded in the humanities, 6 years
<i>dr.scient.pol.</i> political sciences	<i>Magistra/Magister artium (mag.art.).</i> Awarded in the humanities, 6 years
<i>dr.scient.soc.admin.</i> administrative social science	
<i>dr.techn.</i> technical	
<i>dr.theol.</i> theology	
<i>Eksportingeniør.</i> Export Engineer, 5 years	
<i>Ergoterapeut.</i> Occupational Therapist, 3 years	
<i>Ernærings-og husholdnings økonomer.</i> Home Economist, 3.5 years	
<i>Erhvervsøkonomist-sproglig afgangsbrev (ESA).</i> Business Economics, and Foreign Language Leaving Certificate, 3 years	
<i>Erhvervssprogligt Diplom(prøve)/ED.</i> Commercial Language Diploma (exam), 2 years, part-time	

Master's Degree in European Social Policy Analysis, 1 year

Master's Degree in Problems of Society, Technology, and Science in Europe, 1 year

Master's Degree in Public Health, 1-2 years

Musiklærereksamen. Music Teacher Degree, 4 years

Pedagogiske. Teacher (Pre-School, Recreation, and Social Care), 3.5 years

Ph.D.-graden. Ph.D. degree in many fields, minimum of 3 years

Radiograf. Radiographer, 3 years

Religionsvidenskab eksamen. Religious Science Exam, 4 years

Socialrådgiver. Social Worker, 3 years

Socionom. Social Worker, 3 years

Skovtekniker. Forest Engineer, 4 years

Sygeplejerske. Nurse, 4 years

Studiebevis fra Kunstakademiet. Study Certificate from the Art Academy, 6 years

Teknikereksamen. Technical Degree offered in many fields, 1-4 years

Teknikumingeniør. Technical Engineer, 4 years

Appendix D

National Council on the Evaluation of Foreign Educational Credentials and the Placement Recommendations in this Full Country Study

The placement recommendations published in this PIER full country study have been approved by the National Council on the Evaluation of Foreign Educational Credentials (the Council) in consultation with the authors. The Council was established to provide guidance concerning foreign educational credentials to U.S. institutions of higher education. It is the only inter-associational body in the United States specifically organized to perform this role.

The membership of the Council reflects the diversity of U.S. educational institutions for which placement recommendations are made. The member organizations are the American Association of Community Colleges (AACC), the American Association of Collegiate Registrars and Admissions

Officers (AACRAO), the American Council on Education (ACE), The College Board, the Council of Graduate Schools (CGS), the Institute of International Education (IIE), and NAFSA: Association of International Educators. Observers from U.S. organizations interested in international education include the United States Information Agency (USIA), the Agency for International Development (AACRAO-AID), and the New York State Education Department.

Their representatives for 1993-1994 are listed below. See page 111 for a description of the Council's role, and a guide to the understanding of its placement recommendations for this volume.

Members of the National Council on the Evaluation of Foreign Educational Credentials:

Chair: Karen Lukas, Assistant Director of Admissions, University of Minnesota-Twin Cities, Minneapolis, MN (AACRAO)

Past Chair: Caroline Aldrich-Langen, Associate Director, Admissions and Records, California State University-Chico, Chico, CA (AACRAO)

AACC-James Mahoney, Director, Administration, AACC, Washington, DC

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Glossary of Danish Terms

Terms are listed in straight alphabetical order, including those with diacritical marks. The Danish place words beginning with å, æ, or ø at the end of the alphabet.)

A

Adgangseksamen. Entrance examination
Adjunkt. Secondary school teacher
Afgangsbrev. Leaving certificate
Afgangseksamen. Leaving examination, diploma, degree, certificate
Afgangsprøve. Leaving exam
Afspænding. Relaxing
Arbejde. Work
Arbejdskendskab. Vocational studies
Arbejdsmarked. Labor market
Årskarakter. Year's grade
Årskursus. Year's courses

B

Basisuddannelse. Basic education
Begyndert(sprog). Beginner (in language)
Behandling. Treatment
Bestått. Pass
Brev. Certificate, attestation
Biblioteksskole. Library school
Billedkunst. Visual arts
Biologi. Biology
Børnehave. Kindergarten

D

Dagpleje. Daycare
Dansk. Danish
Datalogi. Computer science
Deltagte. Participate
Doktorgrad. Doctorate
Dramatik. Drama
Dyreassistent. Veterinary assistant

E

EFG (Erhvervsfaglige Grunduddannelser). Basic vocational education

Efterskole. Continuation school
Eksamen. Examination, final examination, degree, qualification
Eksamenskarakter. Final examination mark
Engelsk. English
Enkeltfagsprøve. Single-subject examination
Erhvervsjura. Business law
Erhverv. Business
Erhvervsøkonomi. Business economics
Europæisk etnologi. European ethnology

F

Fællesfag. Common core subject
Fag. Subject
Fagskole. Vocational school
Film- og TV-kundskab. Film and TV studies
Filmvidenskab. Film studies
Filosofi. Philosophy
Folkehøjskole. Folk high school
Folkeskole. Primary and lower secondary school
Folketing. Parliament
Forhistorisk arkæologi. Prehistoric archaeology
Formidling. Communication
Forming. Creative arts
Forsikringsvidenskab. Actuarial science
Forskning. Research
Forsøgsfag. Supplementary subject
Fortsættersprog. Continuation level
Fransk. French
Fremstilling. Presentation
Friskoler. Private school, independent school
Fritid. Recreation, leisure time
Fritidsseminarium. Recreation center teacher training college
Fritidsundervisning. Recreation (leisure time) education
Fysik. Physics

G

Gennemsnit. Average
Geografi. Geography
Græsk. Greek
Gren. Branch
Grundfag. Basic subject, foundation subject
Grundkursus. Basic course
Gymnasieskole. Upper secondary school

H

Håndarbejde. Needlework
Handel. Business, commerce, trade
Handelsskole. Commercial school
Historie. History
Hjemmekundskab. Home economics
Hjælpe lærer. Teacher's assistant (student teaching assistant)
Højt. Higher
Husholdningsskole. Home economics school

I

Idræt. Sports
Italiensk. Italian

J

Japansk. Japanese
Jordbrugsmaskinfører. Agriculture mechanic
Jura. Law

K

Kandidatstipendiat. Graduate research fellows
Karakter. Marks, grades
Kemi. Chemistry
Klasselærer. Class teacher
Klassen. Grade, form, class
Kongelige. Royal
Køstskole. Boarding school
Kristendomskundskab. Religious education
Kunsthistorie. Art history
Kursus. Course

L

Lærlingeuddannelse. Apprenticeship training
Landbrugsskole. Agriculture school
Landinspektør. Surveyor
Lektor. Associate professor
Litteraturvidenskab. Literary studies
Lærerseminar. Teacher's college

M

Maskinskrivning. Typing
Mellemniveau. Intermediate level
Middel. Average
Middelgode. Medium
Miljø. Environment
Mundtlig. Oral
Musik. Music
Musikterapi. Music therapy

N

Naturfag. Natural science
Naturvidenskab. Natural science
Navn. Name
Nissen. Gnome
Niveau. Level

O

Obligatorisk fag. Compulsory subject
Oldtidskundskab. Classical studies
Opgave. Problem (e.g., mathematical)
Orden. Neatness
Østasiatiske sprog af kultur. East Asian language and culture
Overført. Transferred

P

Pædagogik. Pedagogy
Prøve. Examination
Psykologi. Psychology

R

Realeksamen. Lower secondary school leaving exam (no longer offered)

Samfundsfag. Social studies
Samfundsvidenskab. Social science
Samtidsorientering. Contemporary studies
Selvstændig. Independent
Skriftlig/e. Written
Slavisk og østeuropastudier. Slavic and East
European studies
Sløjd. Woodwork
Socialrådgiver. Social worker
Socialt arbejde. Social work
Spansk. Spanish
Sprog. Language
Sprogvidenskab. Language studies
Statens uddannelsessøtte. State Education (Grant and
Loan Scheme) Fund
Stavning. Spelling
Studentereksamensbevis. Upper secondary school
leaving examination
certificate

Tandlære. Dentistry
Teatervidenskab. Theater studies
Teknisk skole. Technical school
Tekniske fag. Technical subject, studies
Teologi. Theology
Tilbudsfag. Optional subject
Tilfredstillende. Satisfactory
Tilvalg. Additional choice
Timer. Hours (as in class hours)
Timetel. Numbers (as in class hours)
Tysk. German

Uantagelig. Unacceptable
Udbudte. Offered

Uddannelse. Education, instruction, training
Udmærkede. Excellent
Udvidede Afgangsprøve. Extended leaving examination
Udvidet kursus. Extended courses
Undervisningsassistent. Teaching assistant (non-student)
Ungdomsskole. Youth school

Vægt. Weight
Værdi. Value
Valgfag. Optional (elective) subject
Videreguddannelse. Further education
Virksomhedskonomi. Industrial economy
Vuggestue. Day nursery

I n d e x

A

Aabenraa Børnehave- og fritidspædagogseminarium 99
 Aalborg Børnehave- og fritidspædagogseminarium 99
 Aalborg Seminarium 101
 Aalborg socialpædagogiske Seminarium 99
 Aalborg Universitetscenter/AUC 37
 Aarhus School of Business 64
 Aarhus socialpædagogiske Seminarium 99
 Aarhus Teknikum 133
 Aarhus Universitet 39
 Academic Upper Secondary School 10
 Academic Year 34
 Actors School of Aarhus Theater 69
 Actors School of Odense Theater 69
 Admission, University and Other Tertiary Institutions 35
 Afgangsbevis, Lower Secondary School 6-8
 Afgangsbevis de Social Højskoler Videreuddannelse 79
 Afgangsbevis for Børnehavepædagoger 96
 Afgangsbevis for Ernæring- og Husholdningøkonomer 98
 Afgangsbevis for Fritidspædagoger 96
 Afgangsbevis for handelsfaglærerexamen 97
 Afgangsbevis for husholdningslærer 96
 Afgangsbevis for Socialpædagoger 96
 Afgangsprøve, Lower Secondary School 6,11
 Agrarøkonom 53
 Agricultural Assistants 10
 Agricultural Schools 52
 Agricultural Mechanics 10
 Agriculture 52
 Agroeconomist 53
 Air Force 77
 Akademiingeniør 33, 71
 Akademiøkonom 60
 Ålborg Universitet 37
 Almen administrativ eksamen/AAE 46
 Almen administrative datalogi/AAD 46
 American-Scandinavian Foundation 108,111
 Ankerhus Seminarium 97
 Apotekassistent 92
 Applied Art and Design 57
 Architect 28
 Architecture 59
 Århus Fællesseminarium 101
 Århus Fine Arts Academy 57
 Århus Kunstakademi 57
 Århus Tandlægehøjskole 86
 Århus Universitet 39
 Arkitektskolen i Aarhus 59
 Årskarakter 12
 Army Officers School 76
 Art and Design 56

B

Bachelorgraden 31, 32, 48
 Bagsværd socialpædagogiske Seminarium 99
 Ballerup Seminariet 99
 Bevis for lærereksamen 96
 Bibliotekar, D.B. 76

Billed-journalist 75
 Birkerød Gymnasium 16
 Blaagaard Statsseminarium 101
 Business Administration and Commerce 60
 Business Diplomas and Certificates 110
 Business Schools 64
 Byggetekniker 28
 Byggeteknisk Højskole 28
 Bygningskonstruktør 28

C

Candidatus/a 31, 32
 actuarii/Cand.act. 42
 agronomiae/Cand.agro. 55
 architecturae/Cand.arch. 60
 bibliothecariae/Cand.scient.bibl. 76
 bromatologiae/Cand.brom. 55
 hortonomiae/cand hort. 55
 hortonomiae architecturae/Cand.hort.arch. 55
 juris/Cand. jur. 75
 lactonomiae/Cand.lact. 56
 linguae mercantilis/Cand. ling. merc. 67
 magisterii/Cand.mag. 51
 medicinae/Cand.med. 56, 89
 medicinae veterinariae/Cand.med.vet. 56
 mercantilis int./Cand. merc. int. 68
 mercanturæ/Cand. merc. 67
 mercanturæ/erhvervsproglig magisterii 67
 mercanturæ dat./Cand. merc. dat. 67
 mercanturæ et auditoris (Cand. merc. aud.) 67
 mercanturæ juris/Cand.merc.jur. 67
 mercanturæ mat./Cand.merc.mat. 67
 negotiandi/Cand.negot. 45
 odontologiae/Cand.odont. 86
 oeconomices/Cand.oecon. 67
 oeconomices scientiarum/Cand.oecon.) 64
 paedagogiae/Cand.paed. 99
 paedagogiae psychologiae/Cand.paed.psych. 99
 pharmaciae/Cand.pharm. 89
 philosophiae/Cand.phil. 33
 politicarum/Cand.polit. 42
 polytechnices/civillingeniør/Cand.polyt. 72
 psychologiae/Cand.psych. 40
 rerum socialium/Cand.rer.social. 45
 scientiae/Cand.scient. 71
 scientiae bibliothecariae/Cand.scient.bibl. 76
 scientiarum/Cand.scient. 38
 scientiarum administrationis/Cand.scient.admin. 38
 scientiarum oeconomices/Cand.scient.oecon. 38
 scientiarum politicarum/Cand.scient.polit. 40, 42
 scientiarum socialium/Cand.scient.social. 42
 silviniomiae/Cand.silv. 56
 theologiae/Cand.theol. 79
 CEMS Master 23
 Chemical Technologist 91
 Chiropractic Education 86
 Civilingeniør/cand.polyt. 74
 Civilingeniør transcript from Danmarks Tekniske

- Højskole/DTH* 83
 Clinical Dental Technician 90
 Colleges of Arts, Crafts and Design 58
 Colleges of Education 95, 96, 101
 Commission for Educational Exchange Between Denmark and the United States of America 108, 110
 Community Action Program for Education and Training for Technology (COMETT) 105
 Compulsory education 2
 Compulsory Curriculum for the Higher Preparatory Examination (*Højere forberedelseseksamen/HF*) 14
 compulsory subjects, upper secondary school 11
 Computer Specialist 61
 Conservatory Music Study 77
 Construction Architect 28
 continuing education 39
 Copenhagen Business School 66
 Copenhagen International School 15
 Copenhagen Polytechnic 28
 Copenhagen University 41
 CPR 36
 Curriculum at the Upper Secondary School
 Languages Line 11
 Mathematics Line 11
- D**
 DANIDA 56
 Danish-American Foundation 108
 Danish College of Design 57
 Danish Conference of Rectors 36
 Danish Information Office 110
 Danish Midwifery School 88
 Danish Research Academy 37
 Danish School of Journalism 74
 Denmark-Amerika Fondet (Danish-American Foundation/DAF) 108, 110
 Danmarks Biblioteksskole 76
 Danmarks Designskole 57
 Danmarks Farmaceutiske Højskole 89
 Danmarks Ingeniørakademie (Engineering Academy of Denmark) 71
 Danmarks Jordemoderskole (Danish Midwifery School) 88
 Danmarks Journalisthøjskole 74
 Danmarks Lærerhøjskole 99
 Danmarks Tekniske Universitet 73, 110
 Danske Mensendieck Skole 92
 Datamatiker 28
 Datanom 60, 61
 Den Danske Filmskole 74
 Den Erhvervsproglige Korrespondenteksamen 82
 Den Grafiske Højskole 58
 Den Kongelige Veterinær- og Landbohøjskole 53
 Den Sociale Højskole i Århus, Esbjerg, København, Odense 79
 Den Sønderjyske Sygeplejeskole 93
 Denmark's International Study Program (DiS) 104, 107
 Dental Assistant 90
 Dental Hygienist 90
- Dentistry 86
 Department of Higher Education 30
 Department of Vocational Training 30
 Designer 58
 Det Fynske Kunsthakademi 57
 Det fynske Musikkonservatorium 77
 Det Jyske Kunsthakademi 57
 Det jyske Musikkonservatorium 77
 Det Kongelige Danske Kunsthakademi 56
 Det Kongelige Danske Musikkonservatorium 77
 Diakonhøjskolen 80
 Diakonissestiftelsens Social- og Sundhedsskole for Frederiksberg 93
 Diploma Europe and the World 32, 75
 Diplom i... (musical instrument) 78
 Diplom i grafisk kommunikation 58
 Diplom i grafisk teknik og økonomi 59
 Diplom i musik 78
 Diplom i Musikpædagogik 78
 Diplom i Rytmsk Musiklærer 78
 Diplomingeniør 70
 Direktoratet for Udlændinge 110
 Doctoral degrees 31
 doktor 32
 Doktorgraden 33
 Doctor linguae mercantili (Dr.ling.merc.) 68
 Doctor medicine (dr.med.) 33
 Doctor medicine veterinariae (dr.med.vet.) 65
 Doctor mercanturæ (dr.merc.) 68
 Doctor odontologiae (dr.odont.) 87
 Doctor philosophiae (dr.phil.) 33
 Doctor scientiae (dr.scient.) 33
 Doctor scientiarum politicarum (dr.scient.polit.) 33
 Doctor technices (dr.techn.) 33
 Doctor theologiae (dr.theol.) 33
 Drama 69
 Driftsleder med grønt bevis 52
 Driftsleder med grønt diplom 53
- E**
 Edb-assistent 28
 efterskoler 10
 Eksamensbevis Tillægsuddannelsen 75
 Eksamineret Eksportør/EE 60
 Eksportingenør 29, 71
 Eksportekniker 28, 29, 60
 El-installer 28
 Elektroniktekniker 28
 Elementary Teacher Training 96
 Engineering 70
 Engineering Academy of Denmark 71
 Engineering Colleges 33
 Environmental Technologist 91
 Ergoterapeut 92
 Ergoterapeut- og Fysioterapeutskolen i Aalborg, i Aarhus, i Holstebro, i Næstved, Odense 94
 Ergoterapeutskolen i København 94
 Erhvervsfaglige Grunduddannelser/EFG 16
 Erhvervsuddannelser/EU 16
 Erhvervsøkonomisk 67
 Erhvervsøkonomisk -sproglig afgangsbasis/ESA 67

Index

Erhvervsproglig diplomprøve/ED 62
Erhvervsproglig Korrespondent 62, 66, 68
Erhvervsproglig diplomprøve/ED 62, 69
Ernærings- og husholdnings økonomer 96
Esbjerg Teknikum 133
EUCLID 76

European Community Action Scheme for the
Mobility of University Students (ERASMUS)
105

European Community Course Credit Transfer
System (ECTS) 105

European Diploma in International Journalism 32

European Engineer/EUR.ING. 70

Examinatus artium/exam.art. 33

Examinatus oeconomiae/exam.oecon. 33, 64

Examinatus scientiarum/exam.scient. 33, 64

Exportingeniør 71

Extended Leaving Examination 11, 29

F

Facilities 36

Faculty Titles 36

Faglært landmand 52, 53

Farmaceutuddannelsen 89

FEANI, 26

Film 74

Fine Arts 56

Fisheries Assistants 10

Folkhøjskoler 106

Folkhøjskoler Sekretariat 107

folkeskolen 1, 10, 11

Foreign Student Qualification 15

Forestry Schools 53

Forskerakademi 37

Forskningsbibliotekar- og dokumentalist 76

Frederiksberg Seminarium 101

Frederiksberg Sygeplejeskole 93

Frederiksborg Amts Sygeplejeskole 93

Frøbel-Højskolen 99

*Frøbelseminariet for Børnehave- og
fritidspædagogseminarium* 99

Funen Fine Arts Academy 57

Funen Music Academy 77

Fyns Amt Sygeplejeskolen 93

Fyns Amt Sygehusvæsen Sygeplejeskolen Sdr. 93

Fysioterapeut (Physical therapist) 92

Fysioterapeutskolen i Esbjerg, i København 94

G

Gedved Statsseminarium 99

Gentofte Social pædagogiske Seminarium 99

Grading Scales 7, 13, 35, 36, 95, 110

minimum passing mark 13

Primary and Lower Secondary 7

Secondary 13

Teacher Training 95

University 35, 36, 110

Terms: *Årskaracter* 12, *bestået* 36, *godkendt* 36,
ikke bestået 36, *ikke godkendt* 36,
Karakter 45

Grafonom 58

Graduate and In-Service Teacher Training 99

Graphic College of Denmark 58

Graphic Design 58

Green Certificate 52

Green Diploma 53

GVS-mester 28

Gymnasialt Indslusningskursus for Flygtninge/GIF 15

*Gymnasialt Indslusningskursus for Fremmedsprogede
Gennemført på Forsøgsvilkårihenhold til HF-
bekendtgørelsen* 15

gymnasieskole 10, 11

H

HA: See *Handelshøjskolens Afgangseksamen*

HA-dat. 66

HA-juris 67

Haderslev Statsseminarium 99, 101

Hærernes Officersskole 76

Håndarbejds lære 97

Handelsfaglærerexamen -engelsk 102

Handelshøjskole Afgangseksamen/HA 66, 69

Handelshøjskole Syd/HHS 68

Handelshøjskolen i Aarhus 64

Handelshøjskolen i København/HHK 66

Handelshøjskolens Afgangseksamen i datalogi/HA-dat.
64, 66

Handelshøjskolens Afgangseksamen i juris/HA-jur. 67

Handelshøjskolens Afgangseksamen/HA 66, 69

Handelskole Diplomeksamen/HD 63, 67

handelsskoler 10

Handelsvidenskabelig Afgangseksamen/HA 33, 63

Handelsvidenskabelig Diplomeksamen/HD 61

Haslev Seminarium 101

Haslev Teknikum 133

Health sciences 86

Helsingør Teknikum 133

HF- See *Højere forberedelseseksamen/HF*

HHX Diploma 16, 26

Higher Commercial Examination (HHX) 10, 16,
20, 34

Higher Preparatory Examination 13, 34

Higher Technical Examination (HTX) 10

Hindholm Socialpædagogiske Seminarium 99

Hjørring Seminarium 100, 101

Højere forberedelseseksamen/HF 10, 13, 14, 15
compulsory curriculum 10, optional subjects
14, single-subject classes 15

Højere Grunduddannelser/HG 16

Højere Handelseksamen/HHX 10, 16, 17

Bevis for HHX, examinations, Diploma 16, 17

Højere Teknisk Eksamen/HTX 10, 16

course requirements, diploma 27

Højvang Børnehaveseminarium 100

Højvangseminariet 100

Holbæk Seminarium 101

Holstebro Børnehaveseminarium 100

Home Economics Education 19

Horsens Teknikum 133

Hortonom (Horticulturist) 55

Hospital Trained Dietitian 91

Hospitalslaborant 91

Hospitalslaborant skolen i København, i Aarhus 91
Hotel og- restaurantlederuddannelsen 28
HTX Diploma, see Højere Teknisk Eksamen
Husholdningslærer 96

J

Ikast Seminariet 100
Industriel produktudvikler 28
Institute of International Education (IIE) 108
International Baccalaureate 15
International People's College 107

J

Jægerspris socialpædagogiske Seminarium 100
Jelling Statsseminarium 100, 101
Jordemoder 88
Journalism 74
Journalistisk Diplomeksamen/J 75
Journeyman's Certificate 10
Jutland Fine Arts Academy 57
Jutland Music Conservatory 77
Jydsk Børnehøve Seminarium 100
Jydsk Fritidspædagog Seminarium 100
Jysk Åbent Universitet 39

K

Kalo School of Languages 108
Kemiingeniør 71
Kemisk teknolog 91
Kemitekniker 28
Kindergarten 5
Klinisk tandtekniker 90
Københavns Amt Sygeplejeskolen 93
Københavns Børnehøveseminarium 100
Københavns Dag- og Aftenseminarium 101
Københavns Fritidspædagog Seminarium 100
Københavns Socialpædagogiske Seminarium 100
Københavns Sundhedsvæsen 93
Københavns Tandlægehøjskole 86
Københavns Teknikum 133
Københavns Universitet 41
Kolding Børnehøve Seminarium 100
Kommission for Uddannelsesudveksling Mellem Danmark og de Forenede Stater 108
Konferencetolk 68
Konservator 57
Korrespondent 44
Kunstakademiet arkitektskole i København 59
Kunsthåndværkerskole 58

L

Laborant 91
Laborant skolen i Hovedstadsområdet 91
Laboratorie-/miljøtekniker 28
Laboratory Technologist 91
Landbrugets grunduddannelse 10
Landbrugsskoler 52
Landbrugstekniker 53
Landbrugsuddannelser 10
Landmålingstekniker 28
Landscape Architecture Study Plan 54

Language of Instruction 34
Leaving Examination 11
Legal Studies 75
Lægnedsmiddelingenør 55
Lægnedsmiddletekniker 28
Library Studies 76
Licentiat 31
Licentiat architecturilic.arch. 60
Licentiat linguae mercaturaellic.ling.merc. 68
Licentiat mercaturaellic.merc. 68
Licentiat Technices/lic. techn. 74
Lower Secondary Teacher Training 96

M

Magister/tra artium/mag.art. 33
Magisterkonferencer/mag.art. 33
Maler (videregående) 28
Mållertekniker 28
Manager with Green Certificate 52
Manager with Green Diploma 53
Maritime engineer 29
Marksøkonom 28, 61
Marksøkonom Diploma 81
Maskintekniker/Maskinmester 28
Master's Degree in European Social Policy and Analysis 47
Master's Degree in Problems of Society, Technology, and Science in Europe 47
Master's Degree in Public Health 41
Matriculation Exam 10
Mechanical Engineering, sample curriculum 72
Medical Fields 86
Medical Laboratory Technologist 91
Medicine 87
Mejeritekniker 28
Merkonom 60, 61
Midwifery 88
Military Sciences 76
Miljøtekniker 91
Ministry of Cultural Affairs 30
Ministry of Education 10, 12, 13, 30
Music 77
Musiklærereksamen 78

N

National Council on the Evaluation of Foreign Educational Credentials 111
National Danish Film School 75
Naval officer Training 77
Needle-craft Teacher 97
Nordic Council 104
Nordic Programme for the Mobility of University Students and Teachers (NORDPLUS) 104
Nordjysk Musikkonservatorium 77
Nørre Gymnasium 15
Nørre Nisum Seminarium 101
North Jutland Music Conservatory 77
Nursing 88
Nursing diploma 89
Nursing schools 93
Nutritional and Consumer Teachers 96

Index

Nykøbing F. Børnehave- og fritidspædagogseminarium 100
N.Zahles Seminarium 101

O

Occupational Therapist 92
 Occupational Therapy schools 94
Odense Børnehave- og fritidspædagogseminarium 100
Odense Seminarium 101
Odense Socialpædagogiske Seminarium 100
Odense Teknikum 133
Odense Universitet 44
Økonoma 28, 91
 Open Universities 33
Opera Akademiet 78
 Orthoptics 92
overført eksamenskarakter 12

P

Pædagogikum 103
Pædagogiske uddannelse af lærere ved tekniske skoler 98
Pædagogseminariet i Hillerød 100
 Paramedical Fields 90
 personal registration number 36
 Ph.D.-graden 32
 Pharmacy 89
 Pharmacy Assistant 92
 Pharmacy assistant school 92
 Physical Therapist 92
 Physical Therapy schools 94
 Placement Recommendations 115
Præsteseminariet 79
 Preschool and Social Care Institutes of Education 99
 Preschool and Social Care Teacher 95
 primary and lower secondary education 5
 private schools 7
Produktionstekniker 28

Q

Quota One 35
 Quota Two 35

R

Radiograf 93
Radiografskolen i Odense 93
Radiografskolen ved Århus Kommunehospital 93
Ranum Statsseminarium 100
Rektorkollegiet 31
Religionsvidenskab 80
 restricted admission 35, 40
Ribe Amts Sygeplejeskole 93
Ribe Statsseminarium 101
Ringkjøbing Amts Sygeplejeskole i Herning og Holstebro 93
Roskilde Amts Sygeplejeskole 94

Roskilde Universitetscenter/RUC 34, 46
 Royal Danish Academy of Fine Arts 57
 Royal Danish Academy of Music 97
 Royal Danish School of Educational Studies 99
 Royal Danish School of Pharmacy 89
 Royal Danish Veterinary and Agricultural University 53
 Royal Dental College of Copenhagen 86
 Royal Dental College of Århus 86
 Royal School of Librarianship 76
Rytmask Musikkonservatorium 78

S

SCANCOR 68
 School for Clinical Assistants and Dental Hygienists, Copenhagen 92
 School for Clinical Assistants, Dental Hygienists, and Clinical Dental Assistants, Aarhus 90
 School for Hospital Trained Dietitians 91
 School of Architecture of the Royal Danish Academy of Fine Art 59
 School of Architecture, Aarhus 59
 School of Visual Arts, 56
 Schools of Occupational and Physical Therapy 94
 Secondary School 5, 10
 Academic Secondary School 10
 Alternative Secondary Academic Qualifications 15
 Commercial School and programs 10, 16
 Curriculum 12
Gymnasieskoler 10, 11
 High Level Optional Subjects 12
 Languages Line 11
 Lower Secondary School 5
 Mathematics Line 11
 Private Schools 7
 Social and Health Training programs 19
Studentereksamen 12
 Technical Upper Secondary Schools 17
 Technical Schools 28
 Transfer between programs 19
 Upper secondary education 10
 Upper secondary school leaving examination 10, 12, 34
 Vocational Upper Secondary Programs 16
SEL AFD. Fyn, København/Sjælland, Midtjylland, Nordjylland, Syd- og Sønderjylland 98
SEL, Statens Erhvervspædagogiske Læreruddannelse 98
Sem. Andele 45
Seminariet i Esbjerg 100
Seminariet på Amager 100
Silkeborg Seminarium 101
 Single subject exam 14
 Single Subject HF examination result (English) 25
Sjúkrasýstraskuli Føroya 94
Skårup Statsseminarium 101

- Skive Seminarium* 101
Skolen for Klinikassistenter og Tandplejer 90
Skolen for Sundhedsuddannelser 94
Skovskolen 53
Skovtekniker 53
Skovtofte Socialpædagogiske Seminarium 100
Skuespiller 69
Skuespillerskolen ved Aarhus Teater 69
Skuespillerskolen ved Odense Teater 69
Slagelse Børnehave- og fritidspædagog-seminarium 100
 Social and Health Training Programs 19
 Social work schools 78, 79
Social- og sundheds assistent 19, 88
Social- og sundheds hjælper 19, 88
social- og sundhedsuddannelser 10
Socialrådgiver 78
Socionom 79
Sønderborg Teknikum 100
 Southern Business School 68
 Specialized Teacher Training 96
Stærkstrømstekniker 28
 State Institution for Educational Training of Vocational Teachers 97
Statens Erhvervspædagogiske Lærerruddannelse/SEL schools 97
Statens Teaterskole 69
Statens Uddannelsesstøtte/SU 31, 32
 Student Examination 10, 12
Studerereksamen 10, 35, 52
Studerereksamen Bevis 13, 21, 22
Studerterkursus 10, 15
Studiebevis fra Kunstakademiet 57
 Study Abroad 104
Styrelsen for Statens Uddannelsesstøtte/SU 111
SU 31
Suhr's Seminarium 97
Svendbrev 10, 16
Sygeplejefaglig Diplomexamen 89
Sygeplejeskolen 94
Sygeplejeskolen i Aalborg, Randers, Silkeborg, Thisted, Vejle Amt, Viborg Amt 94
Sygeplejskolen ved Århus Kommunehospital 94
Sygeplejeskolen ved Rigshospitalet 94
Sygeplejerske 89
- T**
Tandplejere 90
Tandtekniker 90
 Teacher Training 95
 Colleges 101
 Elementary and Lower Secondary 96
 Graduate and In-Service Teacher Training 99
 Needle-craft teacher 97
 Preschool and Social Care Institutes 99
 Specialized 96
 Upper secondary school teacher training 98
 Vocational and Technical Teacher Training 97
 Technical Colleges 70
 Technical Schools 28
- Technical University of Denmark 110
 Technical Upper Secondary Education 17
 Technician degree 28
Teknika 71, 133
Tekniker Eksamen 28
Teknikumingeniør 33, 70
Tekniske Skole 10, 28
 Tertiary Credentials 134
 Tertiary Institutions 30
 Theology 79
Trætekniker (Wood technician) 28
 Transfer Between Upper Secondary Programs 19
- U**
Udvidede Afgangsprøve 6, 11, 13
Undervisningsministeriet 111
 Universities 30
 University of Copenhagen 41
 University of Massachusetts 107
 Upper Secondary - See Secondary
 Upper Secondary School Teacher Training 98
 Upper Secondary School Leaving Examination 12, 34
- V**
Vendsyssel Sygeplejeskole 94
Vestjysk Musikkonservatorium 77
Vestjysk Teknikum 133
Vestsjællands Amts Sygeplejeskole 94
 Veterinary Assistants 10
 Veterinary Medicine 89
Viborg Seminarium 100
 vocational certificate (*Svendebrev*) 16
 Vocational and Technical Teacher Training 97
 Vocational Education 16, 130
 Vocational Upper Secondary Programs 16
Vordingborg Statsseminarium 101
- W**
 West Jutland Music Conservatory 77

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